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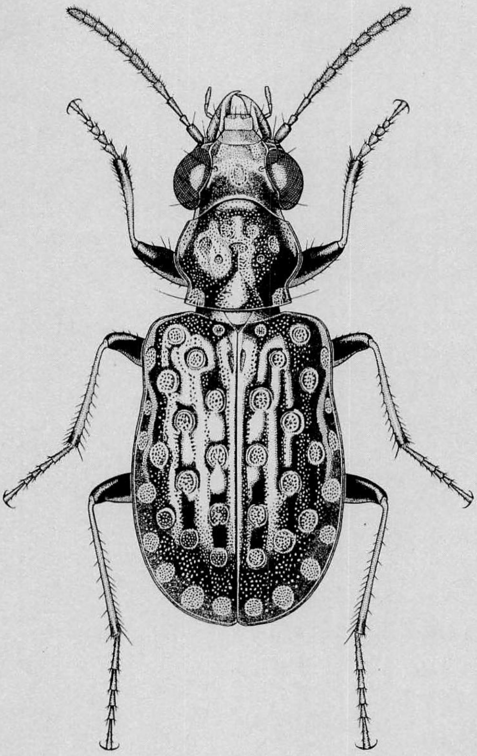

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THE JAPANESE SOCIETY OF COLEOPTEROLOGY
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〒169 東京都新宿区百人町 3-23-1 国立科学博物館分館動物研究部
c/o Department of Zoology, National Science Museum (Nat. Hist)
3-23-1 Hyakunin-chô, Shinjuku, Tokyo, 169 Japan

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[*del.* Sumao KASAHARA]

The ELYTRA welcomes original articles dealing with various aspects of coleopterology. It is published biannually by the Japanese Society of Coleopterology. We are willing to exchange with any publication relating to the study of Coleoptera.

All inquiries concerning the ELYTRA shoud be addressed to: Ms. Akiko SAITO, Secretary, c/o Department of Zoology, National Science Museum (Nat. Hist.), 3-23-1 Hyakunin-chô, Shinjuku, Tokyo, 169 Japan.

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Nouveaux *Carabus* (*Apotomopterus*, *Morphocarabus*, *Scambocarabus*) (Coleoptera, Carabidae) des Régions Montagneuses de Chine

Thierry DEUVE

Muséum National d'Histoire Naturelle, Laboratoire d'Entomologie,
45, rue Buffon, F–75005 Paris, France

et

Yûki IMURA

Toriyama-chô 672–4–504, Kôhoku-ku, Yokohama, 222 Japan

Abstract Four new species and three new subspecies of the genus *Carabus* (=subtribe Carabina) are described from the mountainous regions of China: *Carabus* (*Apotomopterus*) *tenuimanus*, *C.* (*A.*) *koiwayai*, *C.* (*A.*) *solidior* and *C.* (*A.*) *solidior errabundus* from Yunnan, *C.* (*Morphocarabus*) *venustus liaoningensis* from Liaoning, *C.* (*M.*) *venustus jilinensis* from Jilin, and *C.* (*Scambocarabus*) *shaanxicus* from Shaanxi.

La faune entomologique de la Chine continentale est dans son ensemble mal connue et ce pays fait en ce domaine figure de *terra incognita*. Cette affirmation doit être tempérée pour les espèces du genre *Carabus* LINNÉ qui ont été intensivement étudiées au début de ce Siècle et à la fin du Siècle dernier, mais dont il reste cependant à établir un inventaire complet et à préciser les aires de répartition et la variation géographique des espèces. C'est dans le cadre de ce projet que nous donnons les descriptions de taxons nouveaux correspondant à des populations découvertes au cours des toutes dernières années.

Les espèces et sous-espèces décrites ci-après proviennent de diverses provinces de Chine, toutes de régions montagneuses et boisées. Deux d'entre elles ont été découvertes dans le Yunnan, dans des formations arbustives à *Pinus* et *Rhododendron*, non loin des forêts hygrophiles relictuelles à *Abies* qui bordent le flanc du Mont Yulong-Xue Shan (5.596 mètres) au nord de la cité de Lijiang. Cette localité mérite quelques remarques.

Il est notable que pas moins de trois espèces du sous-genre *Apotomopterus*, très proches morphologiquement, cohabitent en parfaite syntopie dans cette station: les deux espèces nouvelles et *C.* (*A.*) *tuxeni* MANDL (une femelle). Le Yunnan, province méridionale de Chine, est situé en périphérie de l'aire de répartition du genre *Carabus* et peu de sous-genres atteignent ce territoire. Ce sont seulement les *Apotomopterus*, les *Ohomopterus* ou *Carabus* s. str. (voir plus loin) et des représentants du complexe *Megodontus*/*Protodamaster*/*Aristocarabus* (cf. IMURA et KEZUKA, 1989). Dans le cas des *Apotomopterus* de la forêt de Yulong-Xue Shan, on assiste à la présence d'une pluralité d'espèces qui occupent sans doute des niches écologiques différentes d'un même biotope. Un phénomène comparable a été décrit pour le sous-genre *Imaibius* au Cachemire, situé aussi en périphérie sud de l'aire du genre *Carabus* et où la compétition pour l'occupation des niches est intrasubgénérique (DEUVE, 1985). Il serait intéressant de préciser les biologies respectives des espèces concernées mais, en tout état de cause, il est remarquable que les trois *Apotomopterus* syntopiques de Yulong-Xue Shan, de tailles à peu près similaires, soient *a priori* phylogénétiquement très proches. Une quatrième espèce, *C. yunnanus*, a été récoltée dans la même localité, mais elle appartient au sous-genre *Ohomopterus* ou *Carabus* s. str., si l'on se réfère aux caractères de l'endophallus mis en évidence et exploités par ISHIKAWA (1973) (IMURA, en préparation).

Les autres taxons décrits ci-après correspondent à des espèces ou races géographiques d'origines diverses (provinces du Yunnan, du Shaanxi, du Jilin, du Liaoning). Pour toutes les espèces nous avons figuré la morphologie de l'endophallus en extension (MEURGUES et LEDOUX, 1966) lorsque le mâle était connu. De même, nous avons représenté la partie ectodermique des genitalia internes des femelles, bien que ces caractères ne permettent pas toujours de reconnaître les espèces avec précision et sûreté. En particulier, le sclérite ventral situé à la base de l'oviducte commun peut présenter une forme variable selon son état de développement et de sclérotinisation. Comme il est nécessaire de le rappeler, ce sclérite n'est pas situé sur des territoires vaginaux (segments abdominaux VIII et IX), mais sur la base de l'oviducte, dont l'origine segmentaire est toute différente (segment VII). Le terme d' "apophyse vaginale" ne nous paraît pas acceptable pour cette raison et nous avons utilisé celui d' "*apophyse ligulaire*" (DEUVE, 1988 b) en référence à la position de ce sclérite sur la *ligula basalis*, vestige de la base de l'oviducte primaire visible chez de nombreux Adephaga.

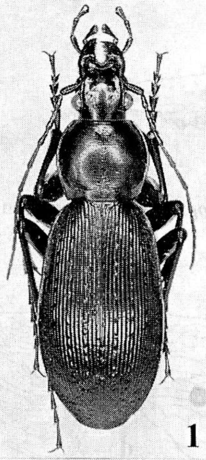
Nous tenons à remercier le Dr. Shun-Ichi UÉNO, du National Science Museum (Nat. Hist.) de Tokyo, qui a accepté notre manuscrit pour la revue *Elytra*. Notre gratitude est également due, pour leur aide très aimable, à MM. Satoshi KOIWAYA de Tokyo, Pietro RATTI de Biella, et Hisaka MATSUI d'Osaka.

1. ***Carabus* (*Apotomopterus*) *tenuimanus*** DEUVE et IMURA, n. sp.

(Figs. 1–2, 10–11)

Holotype: ♂, Chine, Yunnan, Lijiang, Mont Yulong-Xue Shan, 2.700–2.800 m, VI–1988, *in* coll. National Science Museum (Nat. Hist.), Tokyo. Paratype (allotype):

Figs. 1–9. —— 1, *Carabus* (*Apotomopterus*) *tenuimanus* n. sp., ♂, holotype; 2, *idem.*, ♀, allotype; 3, *C.* (*A.*) *koiwayai* n. sp., ♂, holotype; 4, *idem.*, ♀, allotype; 5, *C.* (*A.*) *solidior* n. sp., ♂, holotype; 6, *C.* (*A.*) *solidior errabundus* n. subsp., ♀, holotype; 7, *C.* (*Morphocarabus*) *venustus liaoningensis* n. subsp., ♂, holotype; 8, *C.* (*M.*) *v. jilinensis* n. subsp., ♂, holotype; 9, *C.* (*Scambocarabus*) *shaanxicus* n. sp., ♀, holotype.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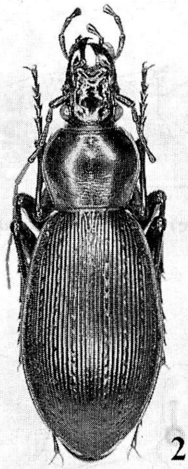
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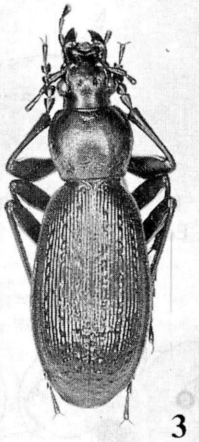
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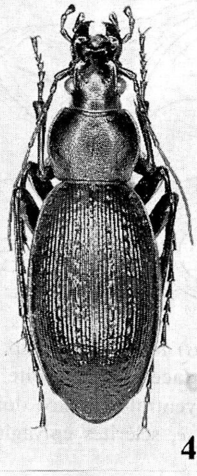
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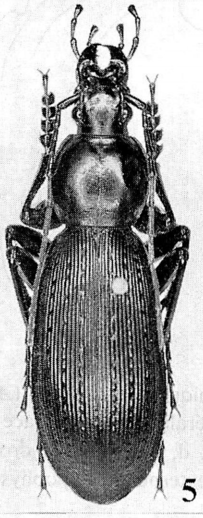
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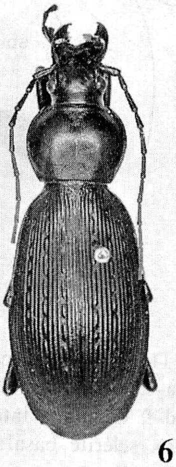
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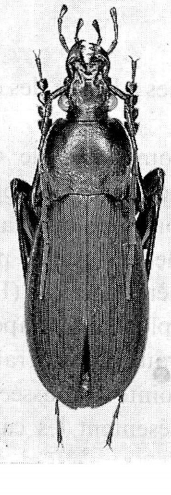
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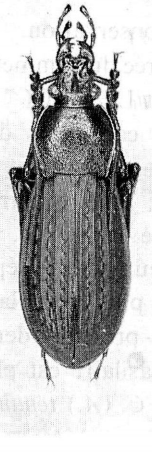
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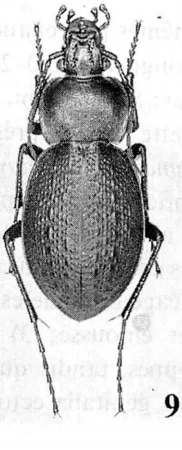
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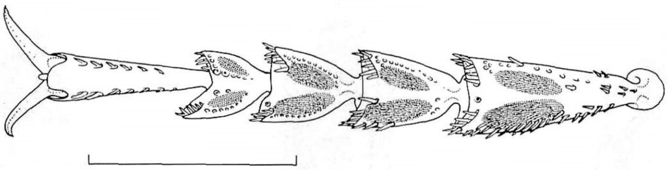


Fig. 10. Protarse droit (face ventrale) du mâle de *Carabus* (*Apotomopterus*) *tenuimanus* n. sp. Échelle: 2 mm.

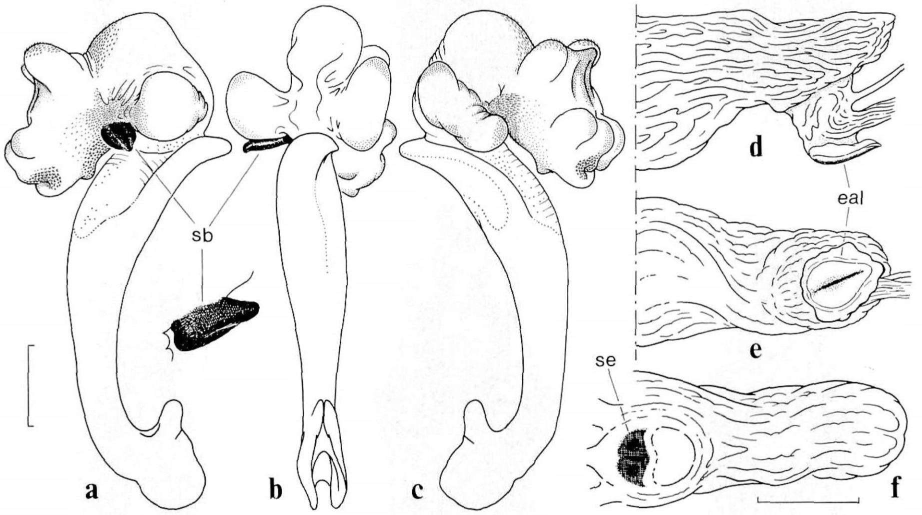


Fig. 11. Organes génitaux ectodermiques de *Carabus* (*Apotomopterus*) *tenuimanus* n. sp. — a–c, Genitalia mâles; a, face latérale gauche; b, face ventrale; c, face latérale droite. — d–f, Genitalia internes femelles; d, face latérale droite; e, face ventrale; f, face dorsale. *sb*, sclérite basal; *eal*, plaque externe de l'apophyse ligulaire; *se*, sclérites épivaginaux. Échelle: 2 mm.

1 ♀, mêmes provenance et lieu de conservation.

Longueur: 28,0–29,7 mm (mesurée du sommet des mandibules à l'apex des élytres). Largeur: 8,5–9,5 mm. Pronotum: lt/Lt=1,30 (♂) à 1,60 (♀).

Cette espèce présente tous les caractères de la forme nominative de *Carabus* (*Apotomopterus*) *delavayi* FAIRMAIRE, qu'il n'est donc pas nécessaire de rappeler, à l'exception des trois points suivants: 1) les protarses du mâle sont à peine dilatés, difficiles à distinguer des protarses de la femelle, la sole ventrale des quatre premiers articles est cependant tapissée par deux pelotes séparées de phanères adhésifs (Fig. 10); 2) l'édéage du mâle est plus court et plus épais, la lame apicale plus large, l'apex assez bref et émoussé; 3) l'endophallus présente deux lobes latéraux considérablement développés, tandis que le sclérite basilaire est plus court, à pointe émoussée.

Les genitalia ectodermiques de *C.* (*A.*) *tenuimanus* nov. présentent les caractères suivants (Fig. 11). Édéage comme sur la Fig. 11 a–c. Endophallus remarquable par le développement de deux lobes latéraux "en oreillettes". Ces formations latérales existent aussi chez l'espèce-type du sous-genre *Apotomopterus*: *C. prodigus* ERICHSON. Dent basale remarquablement courte, à pointe apicale émoussée. Vagin large et court. Apophyse ligulaire avec la plaque externe piriforme, fortement retrécie vers l'avant, avec une légère pigmentation le long de la ligne médiane. Sclérites épivaginaux très caractéristiques, modérément sclérifiés, avec une plaque sagittale assez développée et fortement sclérotinisée.

2. ***Carabus* (*Apotomopterus*) *koiwayai*** DEUVE et IMURA, n. sp.

(Figs. 3–4, 12)

Holotype: ♂, Chine, Yunnan, Lijiang, Mont Yulong-Xue Shan, 2.700–2.800 m, VI–1988, *in* coll. National Science Museum (Nat. Hist.), Tokyo. Paratype (allotype): 1 ♀, mêmes provenance et lieu de conservation.

Longueur: 26,9–28,1 mm. Largeur: 7,5–9,0 mm. Noir concolore luisant, les appendices noirs.

Tête moyenne, le "cou" épais, les yeux assez grands et saillants. Front et vertex modérément convexes, peu mais finement ridulés, les fossettes frontales peu marquées, estompées en arrière vers le niveau du bord antérieur de l'orbite (deux petites fossettes ponctiformes sur le front de l'holotype, entre les yeux). Partie antérieure du front et clypéus lisses, ce dernier bisétulé, le sillon clypéo-frontal fin mais visible, subrectiligne. Labre plus large que le clypéus, à bord antérieur incurvé. Mandibules courtes, le rétinacle gauche plus large que le droit, la dent térébrale droite au contraire mieux marquée que celle de la mandibule gauche. Palpes moyens, le dernier article modérément dilaté; l'avant-dernier article maxillaire un peu plus long que le suivant: l'avant-dernier labial dichète, les deux soies très rapprochées l'une de l'autre, insérées vers le tiers basal de l'article. Mentum bombé dans son tiers central, la dent médiane fine et aiguë, deux fois plus courte que les lobes latéraux. Submentum bisétulé. Antennes brisées sur l'holotype mâle, dépassant de 4,5 articles la base du pronotum sur le paratype femelle et dépassant en arrière le tiers antérieur des élytres.

Pronotum assez petit, plus ou moins transverse (♂: lt/Lt=1, 22; ♀: lt/Lt=1,40), autant rétréci en avant qu'en arrière, la plus grande largeur au milieu. Les côtés régulièrement arqués, le bord antérieur incurvé, la base rectiligne. Les angles postérieurs non lobés, subdroits ou obtus, émoussés. Disque modérément convexe, à surface finement ridulée et microponctuée, plus grossièrement au niveau de l'étroite plage basale. Le sillon médian très fin mais visible; les fossettes basales non ou à peine indiquées. Marges fines et étroites, régulières, sans gouttières creusées mais avec un ourlet de rebordement saillant. Une soie marginale médiane située en arrière de la ligne de plus grande largeur du pronotum, une soie basale en avant de l'angle postérieur.

Elytres en ovale allongé (♀) ou long (♂), la plus grande largeur située au milieu (♀) ou peu après le milieu (♂). Les épaules étroites. Le sommet de l'élytre à rebord

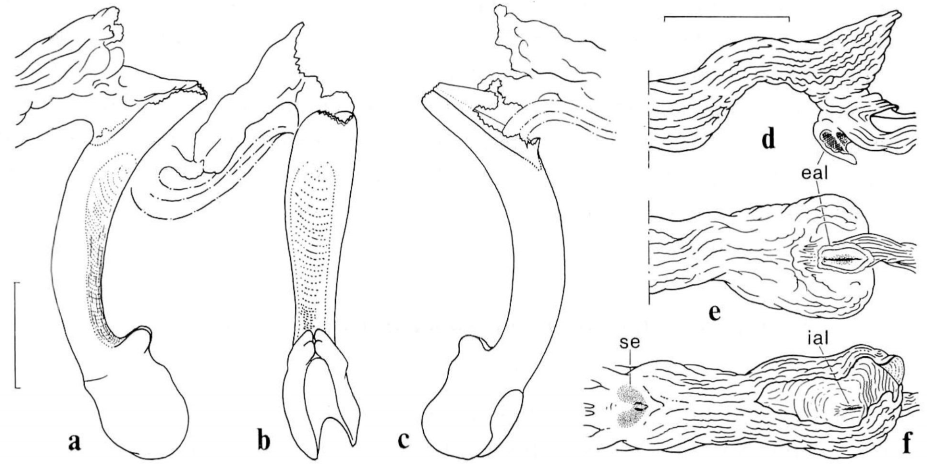


Fig. 12. Organes génitaux ectodermiques de *Carabus* (*Apotomopterus*) *koiwayai* n. sp. —— a–c, Genitalia mâles (une partie de l'édéage et de l'endophallus a été brisée et perdue); a, face latérale gauche; b, face ventrale; c, face latérale droite. —— d–f, Genitalia internes femelles; d, face latérale droite; e, face ventrale; f, face dorsale (avec ouverture d'une fenêtre dans la paroi dorsale). *eal*, plaque externe de l'apophyse ligulaire; *ial*, plaque interne de l'apophyse ligulaire; *se*, sclérites épivaginaux. Échelle: 2 mm.

sinueux chez la femelle. Sculpture de type triploïde homodyname, les stries ponctuées. Intervalles primaires interrompus en assez courts chaînons par des fossettes punctiformes qui n'entament pas les tertiaires adjacents.

Pattes moyennes, les fémurs du mâle avec les quatre premiers articles dilatés et pourvus de phanères adhésifs, le quatrième article aussi large que long et à angle antéro-interne plus saillant que l'angle externe. Sur les métatarses, c'est au contraire l'angle distal externe qui est plus saillant que l'angle interne. Sternum lisse et apophyse intercoxale du mâle glabre. Ventrites abdominaux sillonnés, les marges latérales fortement ponctuées.

Édéage brisé et incomplet sur l'holotype, l'endophallus non étudiable (Fig. 12 a–c). Vagin plus long et plus étroit (Fig. 12 d–f) que chez l'espèce précédente. L'apophyse ligulaire avec une plaque externe graduellement dilatée vers l'avant, peu sclérotinisée, avec seulement une faible sclérification le long de la ligne médiane, la plaque interne rudimentaire. Sclérites épivaginaux faiblement sclérotinisés, avec une petite plaque sagittale au centre qui, elle, est plus fortement sclérifiée.

Caractères diagnostiques. Espèce proche de la précédente, mais distincte au premier coup d'oeil par plusieurs caractères: 1) les protarses du mâle sont dilatés; 2) les palpes buccaux sont plus courts; 3) les stries élytrales sont davantage ponctuées; 4) les marges latérales des ventrites abdominaux fortement ponctuées. De *C.* (*A.*) *lassalleianus* DEUVE, de la région de Dali, cette nouvelle espèce se distingue aussi par: 1) la taille plus petite (26,9–28,1 mm au lieu de 30,0 mm); 2) la sculpture élytrale davantage homodyname et régulière, sans granules surimposés, les stries mieux marquées; 3) les antennes plus courtes, ne dépassant que de 4,5 articles la base du pronotum chez la femelle (5 chez *lassalleianus*); 4) les profémurs du mâle un peu moins épaissis.

3. ***Carabus* (*Apotomopterus*) *solidior*** Deuve et Imura, n. sp.

(Figs. 5, 13)

Holotype: ♂, Chine, Yunnan, Kunming, 2.000 m, 25–VIII–1982, *in* coll. National Science Museum (Nat. Hist.), Tokyo. Paratype (allotype): 1 ♀, même provenance, 10–VII–1986, *in* coll. P. Ratti, Biella.

Longueur: 34,0–35,5 mm. Largeur: 10,5 mm. Espèce de forme oblongue, noire concolore luisant, les appendices noirs.

Tête moyenne, assez robuste, les yeux modérément saillants. Front et vertex faiblement convexes, presque lisses, très peu ridulés et microponctués. Une paire de pores non sétifères sur le front en bordure du sillon clypéo-frontal, celui-ci peu visible. Clypéus lisse, bisétulé. Labre à bord antérieur bien incurvé. Mandibules courtes, sans particularité, les rétinacles gauche et droit à peu près identiques, bifides, la dent térébrale droite plus développée. Palpes moyens, à dernier article modérément dilaté; l'avant-dernier article maxillaire plus long que le suivant; l'avant dernier labial dichète. Dent médiane du mentum aiguë, finement rebordée, d'une moitié à un tiers plus courte que les lobes latéraux. Submentum bisétulé. Antennes assez longues, dépassant de 5 (♀) à 5,5 (♂) articles la base du pronotum, et atteignant en arrière les deux cinquièmes (♀) ou le milieu (♂) des élytres. Le 4° article de même longeur que le pédicelle.

Pronotum peu transverse chez le mâle, seulement 1,13 fois plus large que long, davantage chez la femelle (lt/Lt=1,35), la plus grande largeur au milieu, les côtés régulièrement arqués, nullement sinués avant les angles postérieurs qui sont obtus ou aigus, mais toujours non lobés et émoussés. Le bord antérieur incurvé, la base rectiligne ou subrectiligne. Disque assez convexe, avec de très fines ridulations transversales. Le sillon médian fin mais visible, les fossettes basales peu perceptibles. Marges latérales étroites et régulières, avec un étroit mais saillant ourlet de rebordement. Une soie marginale médiane insérée en arrière du niveau de plus grande largeur du pronotum; une soie basale située très en avant de l'angle postérieur.

Élytres robustes, en ovale long, davantage rétrécis en avant qu'en arrière, la plus grande largeur au tiers postérieur, les épaules étroites. Marge latéro-apicale sinueuse chez le mâle, échancrée chez la femelle avec un angle arrondi. Sculpture triploïde homodyname, régulière, les stries profondes, peu ponctuées. Intervalles primaires interrompus en chaînons moyens par des fossettes ponctiformes qui n'entament pas les tertiaires adjacents.

Pattes moyennes, plus fines chez la femelle, les profémurs peu épaissis chez le mâle. Protarses du mâle dilatés, les quatre premiers articles tapissés d'un feutrage

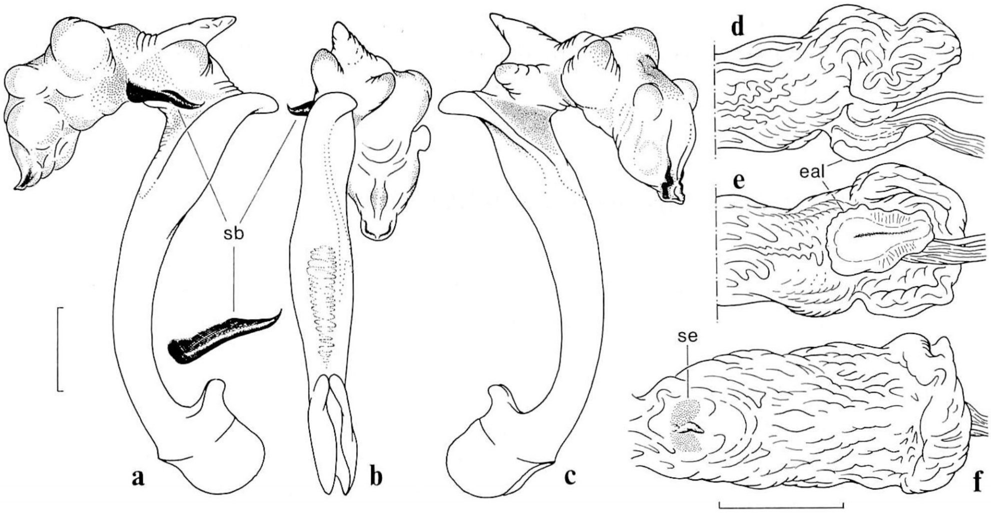


Fig. 13. Organes génitaux ectodermiques de *Carabus* (*Apotomopterus*) *solidior* n. sp. —— a–c, Genitalia mâles; a, face latérale gauche; b, face ventrale; c, face latérale droite. —— d–f, Genitalia internes femelles; d, face latérale droite; e, face ventrale; f, face dorsale. *sb*, sclérite basal; *eal*, plaque externe de l'apophyse ligulaire; *se*, sclérites épivaginaux. Échelle: 2 mm.

de phanères adhésifs sur leur face ventrale, le 4° article plus large que long, à peu près aussi large que le 3°. Prosternum lisse, l'apophyse intercoxale glabre. Ventrites abdominaux sillonnés, les marges latérales modérément mais distinctement ponctuées.

Édéage (Fig. 13 a–c) long et élancé, l'extrémité apicale modérément allongée, le sommet arrondi; la face "ventrale" remarquablement incurvée sur le côté "droit". Endophallus avec un lobe basal bien développé, étiré et à extrémité aiguë; la dent basale longue et acuminée, en forme de griffe: son apex légèrement sinué puis terminé en pointe fine. Genitalia femelles comme sur la Fig. 13 d–f; le vagin assez volumineux; la plaque externe de l'apophyse ligulaire en ovale allongé; la plaque interne vestigiale.

Caractères diagnostiques. Espèce bien caractérisée par la forme de l'édéage du mâle. La grande taille de l'habitus, sa forme oblongue, l'échancrure latéro-apicale des élytres de la femelle, permettent de distinguer *C.* (*A.*) *solidior* nov. de la forme la plus proche morphologiquement: *C.* (*A.*) *delavayi robustior* BREUNING.

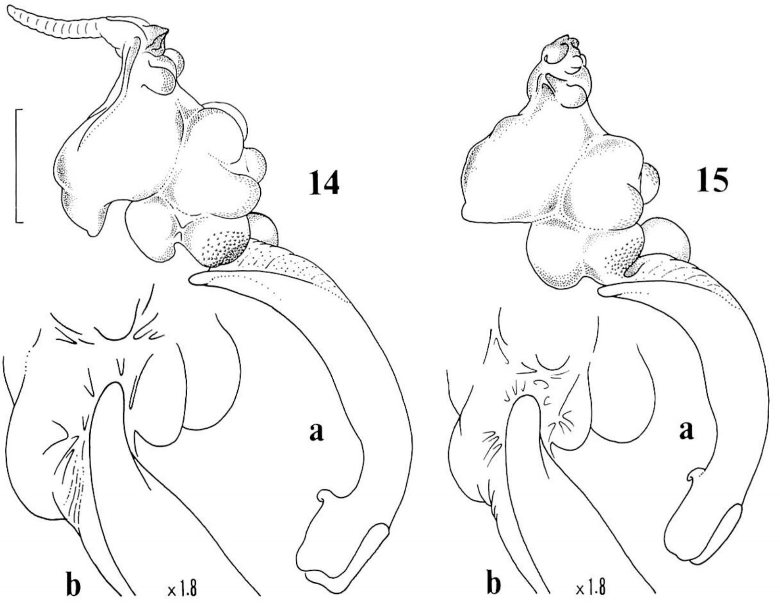
4. ***Carabus* (*Apotomopterus*) *solidior errabundus*** DEUVE et IMURA, n. subsp.

(Fig. 6)

Holotype: ♀, Chine, Ouest-Yunnan, "Hang Kia Pin", 1.400 m, *in* coll. Muséum National d'Histoire Naturelle, Paris.

Longueur: 32,7 mm. Largeur: 10,5 mm. Noir concolore.

Ce spécimen se distingue de la forme typique par les élytres plus courts, avec leur



Figs. 14–15. Genitalia mâles ectodermiques de *Carabus* (*Morphocarabus*) *venustus* subspp. —— 14, *C.* (*M.*) *venustus liaoningensis* n. subsp.; 15, *C.* (*M.*) *venustus jilinensis* n. subsp.; a, face latérale droite; b, face ventrale (extrémité apicale). Échelle: 2 mm.

plus grande largeur située vers le milieu, et par les yeux à peine plus petits et moins saillants. Il faudra connaître le mâle pour confirmer la conspécificité de *solidior* et *errabundus*.

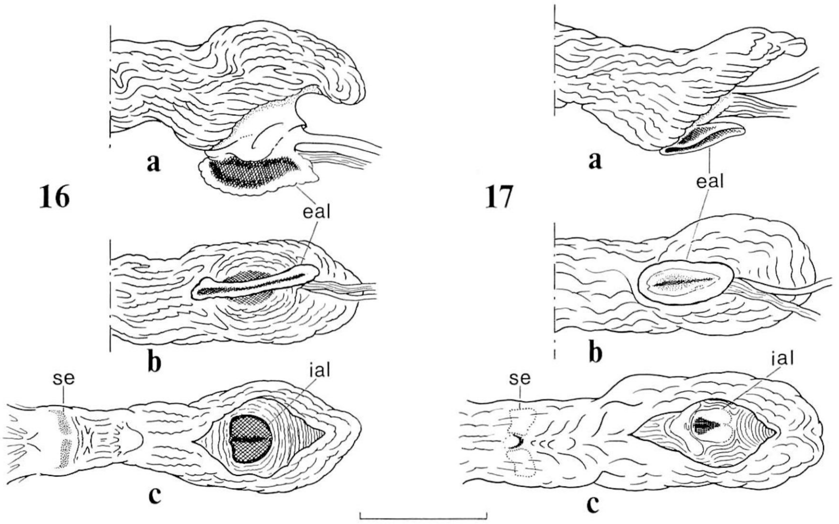
5. ***Carabus* (*Morphocarabus*) *venustus liaoningensis*** DEUVE et IMURA, n. subsp.

(Figs. 7, 14, 16)

Holotype: ♂, Chine, Liaoning, Fengcheng, Mont Feng-Huang Shan, 500–600 m, VI–1989, *in* coll. National Science Museum (Nat. Hist.), Tokyo. Paratypes (dont l'allotype): 5♂♂, 10♀♀, même provenance, *in* coll. National Science Museum (Nat. Hist.), Tokyo, Muséum National d'Histoire Naturelle, Paris, et Y. IMURA.

Longueur: 23,5–28,2 mm. Largeur: 7,7–9,5 mm. Tête noire; le pronotum noirâtre avec une teinte cuivrée dans les régions marginales; les élytres uniformément brun-bronzé bistre ou rosâtre, les fossettes primaires, petites, parfois plus métalliques. Appendices noirs, les quatre premiers articles des antennes et la base des mandibules roussâtres; les fémurs rouges.

Sous-espèce proche d'*opacipennis* REITTER et *wulffiusi* MORAWITZ, mais de taille considérablement plus grande; la sculpture élytrale hétérodyname: les intervalles primaires et secondaires de même force, les tertiaires réduits, interrompus par endroit, mais apparents. Élytres peu convexes, modérément déprimés. Édeage du mâle:



Figs. 16–17. Genitalia ectodermiques internes des femelles. —— 16, *Carabus* (*Morphocarabus*) *venustus liaoningensis* n. subsp.; 17, *C.* (*Scambocarabus*) *shaanxicus* n. sp.; a, face latérale droite; b, face ventrale; c, face dorsale (avec ouverture d'une fenêtre dans la paroi dorsale). *eal*, plaque externe de l'apophyse ligulaire; *ial*, plaque interne de l'apophyse ligulaire; *se*, sclérites épivaginaux. Échelle: 2 mm.

Fig. 14. Genitalia femelles (Fig. 16): la plaque externe de l'apophyse ligulaire très étroite, la plaque sagittale haute et bien sclérotinisée, la plaque interne aussi très sclérifiée et de forme arrondie ou subcarrée.

6. ***Carabus* (*Morphocarabus*) *venustus jilinensis*** DEUVE et IMURA, n. subsp.

(Figs. 8, 15)

Holotype: ♂, Chine, Jiling, Bai-He, pente N. O. du Mont Chang-Bai Shan, VI–1989, *in* coll. National Science Museum (Nat. Hist.), Tokyo. Paratypes (dont l'allotype): 7 ♂♂, 8 ♀♀, même provenance, *in* coll. National Science Museum (Nat. Hist.), Tokyo, Muséum National d'Histoire Naturelle, Paris, et Y. IMURA.

Longueur: 22,2–25,0 mm. Largeur: 7,7–8,6 mm.

Comme la sous-espèce précédente, mais de taille plus petite, les élytres un peu moins aplanis avec une légère teinte violette; les marges latérales du pronotum et des élytres avec un lustre verdâtre. Fémurs noirs. Apex de l'édéage (Fig. 15 b) un peu plus court et plus arrondi.

7. ***Carabus* (*Scambocarabus*) *shaanxicus*** DEUVE et IMURA, n. sp.

(Figs. 9, 17)

Holotype: ♀, Chine, Shaanxi, versant nord des Monts Qinling, Taibai Xian, 1.300 m, IV–1989, *in* coll. National Science Museum (Nat. Hist.), Tokyo.

Longueur: 21,5 mm. Largeur: 8,5 mm. Noir concolore mat, les appendices noirs.

Tête assez petite, les yeux très saillants, le front et le vertex avec une ponctuation forte mais éparse et quelques rides grossières sur les côtés. Fossettes marquées sur le clypéus et sur le front jusque vers le niveau du milieu de l'orbite. Clypéus avec une dépression antéro-médiane, le sillon clypéo-frontal visible, rectiligne. Labre à bord antérieur normalement incurvé. Mandibules courtes, sans particularité, le scrobe externe toutefois très marqué. Palpes courts et épais; le dernier article des palpes maxillaires de même longueur que le précédent; l'avant-dernier article labial dichète, les deux soies extrèmement rapprochées, insérées au quart basal du palpomère. Dent médiane du mentum fine, aiguë, rebordée, d'un tiers plus courte que les lobes latéraux. Submentum bisétulé. Antennes assez courtes, dépassant de 3 à 3,5 articles la base du pronotum et atteignant en arrière le cinquième basal des élytres, le 4° article d'un quart plus long que le pédicelle.

Pronotum grand, transverse, 1,53 fois plus large que long, la plus grande largeur peu avant le milieu, les côtés modérément arqués, non sinués avant les angles postérieurs qui sont largement lobés mais arrondis. Disque convexe, assez fortement ponctué, le sillon médian et les fossettes basales peu marquées. Les gouttières marginales faibles, les marges latérales non relevées mais marquées, de même que la marge antérieure, par un épais ourlet de rebordement. Une soie vers le milieu de la marge, une soie à la base du lobe postérieur.

Élytres ovalaires, la plus grande largeur après le milieu, les épaules arrondies mais marquées, le sommet ni échancré ni sinué. Disque convexe, la sculpture de type triploïde mais irrégulière. Les intervalles primaires à peine plus larges et plus saillants que les intermédiaires, interrompus en longs grains par des espacements irréguliers. Les secondaires et tertiaires égaux entre eux, bien individualisés, non confluents, sous la forme d'alignements de grains plus courts que les primaires. Le fond de la sculpture avec de nombreux granules irréguliers qui lui donnent un aspect mat.

Sternum lisse, l'apophyse intercoxale glabre. Métépisternes avec une ponctuation modérée et éparse. Ventrites abdominaux sillonnés, les marges latérales faiblement ponctuées. Le mâle n'est pas connu.

Vagin comme sur la Fig. 17, formant une bourse copulatrice nettement saillante dorso-antérieurement. Apophyse ligulaire avec une plaque externe allongée, fusiforme, faiblement sclérotinisée le long du sillon sagittal; la plaque interne arrondie, modérément sclérifiée près de la base, le long de la ligne médiane, surtout dans sa moitié antérieure, sans forte sclérotinisation. Sclérites épivaginaux peu développés, transparents.

Caractères diagnostiques. Espèce proche de *C.* (*S.*) *sculptipennis sculptipennis* CHAUDOIR, mais le revêtement dorsal noir mat et non pas luisant, le pronotum plus transverse (lt/Lt=1,53 au lieu de 1,40), avec les angles basaux davantage arrondis, les élytres plus courts, ovalaires. La sculpture élytrale est davantage hétérodyname,

les intermédiaires plus étroits que les primaires, nullement confluents les uns dans les autres.

要　約

Thierry Deuve・井村有希：中国の山岳地帯から発見されたオサムシの4新種，3新亜種．——中国各地の山岳地帯で得られた一連のオサムシ標本を検した結果，以下に述べる4新種，3新亜種を認め，記載した．

Carabus (*Apotomopterus*) *tenuimanus* nov. は，♂前付節がほとんど拡がらないことと，特徴的な交尾器の形態などにより，近似種 *C.* (*A.*) *delavayi* Fairmaire から区別される．*C.* (*A.*) *koiwayai* nov. は前種に近いが，♂前付節は拡がり，口肢はより短く，上翅間室間，胸側板および腹板側面はより密に点刻され，交尾器の形態も異なる．また，雲南省大理から最近記載された *C.* (*A.*) *lassalleianus* Deuve にも近いが，後者より小型で，触角がより短く，♂前腿節がやや細いほか，上翅彫刻，交尾器の形態にも差がみられる．上記の2新種は，いずれも北雲南，麗江北西部に位置する玉龍雪山（標高 5,596 m）の中腹から *C.* (*A.*) *tuxeni* Mandl とともに得られたもので，このように大きさ，形態の類似した3種の *Apotomopterus* が同一地点に生息していることはきわめて興味深い．当地にはこのほかに *C. yunnanus* Fairmaire も生息している．この種はじゅうらい *Apotomopterus* の一員として扱われてきたが，交尾器の形態は *Ohomopterus* または狭義の *Carabus* に近く，その帰属に関しては筆者のひとり，井村により目下準備中の論文において述べられる予定である．

C. (*A.*) *solidior* nov. は，雲南省昆明を基産地とする比較的大型の種で，*C.* (*A.*) *delavayi robustior* Breuning に近いが，♂交尾器の形態により容易に識別される．また，パリ自然史博物館に保存されている雲南省西部 “Hang Kia Pin” 産の1♀に基づき，新亜種 *errabundus* nov. を同時に記載した．

遼寧省と吉林省からは，*C.* (*Morphocarabus*) *venustus* Morawitz の2新亜種，*liaoningensis* nov. と *jilinensis* nov. を記載した．ともに既知の亜種 *opacipennis* Reitter および *wulffiusi* Morawitz に近縁であるが，体長，色彩，上翅彫刻などの違いにより容易に識別される．

最後の種は *Scambocarabus* 亜属に属し，陝西省の秦岭山脈北麓で得られた1♀をもとに *C.* (*S.*) *shaanxicus* nov. として記載した．本新種は *C.* (*S.*) *sculptipennis* Chaudoir 基亜種によく似ているが，背面に光沢を欠き，前胸背板は横長で，その後角はよりまるく，上翅は卵形で短く，彫刻も異なることなどにより識別される．

本論文では，オサムシ亜族 Carabina を1属 *Carabus* として扱い，上記各種の記載に際しては，内袋を完全に反転させた♂交尾器の図に加え，♀の交尾器形態をも図示するよう努めた．また，じゅうらい膣内胚体または膣底部節片と呼ばれてきた小器官については，系統発生学的観点から “apophyse vaginale” と呼ぶことを避け，“apophyse ligulaire” を用語として採用した．

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Elytra, Tokyo, **18** (1): 14, May 15, 1990

新刊紹介

Monografia del Genere *Procerus* (Coleoptera, Carabidae, Carabini) (イボハダオサムシ属総説). By Pierfranco CAVAZZUTI. *Associazione Naturalistica Piemontese Memorie*, Vol. 1, 200 pp., 24 pls., 1989. L'Artistica Savigliano. L 200,000.00

オサムシのなかでも，中国のカブリモドキとならび，いろいろな意味において最高峰のひとつとみなされるイボハダオサムシの仲間だけを徹底的に追及したモノグラフが出版された．著者はイタリアのバグノに住むオサムシコレクター，P. カバスッティである．自身の採集品に加え，イタリアを初めとするヨーロッパ各国の博物館および個人コレクションに保存されている5,000頭にも及ぶ標本を検して書かれたという本書は，この群に対する著者の永年にわたる思い入れがひしひしと伝わってくるような労作である．

内容は，1) 序論；2) 総論，形態，生態，分布；3) 分類；4) 幼生期の形態；5) 周年経過；6) 付記（採集法，飼育など）の6部構成となっている．

形態に関する項では，豊富な部分解剖図が用いられていて，本群のみならず広くオサムシ類一般の教科書としてもじゅうぶんに通用する内容となっている．♂交尾器や大顎の図は，鉛筆画によるものであろうか，ぼかしをうまく生かした味のあるカットが随所に用いられていて，画家を本職とする著者の面目躍如といったところであろう．

分類の項では，著者は *Procerus* をひとつの属として扱い，じゅうらい *scabrosus* の亜種とされてきた *transversalis*, *sommeri*, *caucasicus* をそれぞれ独立種とみなして，*syriacus*, *gigas*, *duponcheli* らとあわせ，計7種に整理している．そして，本属の起源をカスピ海南方山地に求めたうえで，おもに♂交尾器の “ligula” (aedeagus の膜質開口部にある葉片 ostium lobe と同義語として用いている）が単葉か双葉かの違いにより，小アジア半島の南方を西進した「黒い *Procerus*」と，北方経由の「多色彩型 *Procerus*」の2系統を想定している．また，新しい分類単位として，*P. sommeri estegeicus* と *P. scabrosus culminicola* の2新亜種を記載している．

解説文中には，各（亜）種の頭部，前胸背板の拡大写真がつけられ，さらには総計118頭に及ぶ，ほぼ全亜種を網羅した標本写真が，原寸大の見事なカラープレートに収められている．分布図も，既知産地をプロットしたうえで，推定分布域を各種ごとに異なる色に塗り分けた美しいもので，きわめてわかりやすい．30葉に及ぶ幼生期，生態，生息環境のカラー写真も，多くの新しい知見を含み，巨大な幼虫がこれまた巨大なカタツムリに潜り込んでいるカットなどは，思わず息を飲む迫力を持っている．

たんに机上の標本を眺めるだけで作られた本とは異なり，フィールドにおける著者自身の豊富な体験をもとに集大成された仕事であるという点を高く評価したい．英，独，仏語の要約が巻頭に付けられている以外は，すべてイタリア語で書かれているので，われわれ日本の愛好家には少々つらいが，豊富な付図と写真を見ているだけでもじゅうぶんに楽しめる内容となっており，日本にいながらにして，イボハダオサの闊歩する広漠たるアナトリアの大地へとしばしいざなってくれる，夢のある豪華な本である．

ところで，本書には奥付にあたるものがなく，流通ルートがよくわからない．おそらく個人出版のような形で出されたものと思われるが，購入を希望される際は著者あてに直接申し込まれるのがよいようである．

(井村有希)

Elytra, Tokyo, **18** (1): 15–18, May 15, 1990

Taxonomic Notes on *Carabus dargei* (Coleoptera, Carabidae) of Northern Jiangxi, China

Yûki IMURA

Toriyama-chô 672–4–504, Kôhoku-ku, Yokohama, 222 Japan

Abstract *Carabus dargei* DEUVE is transferred from the subgenus *Apotomopterus* to *Isiocarabus*[1] on the basis of the genitalic characters.

Carabus dargei is a medium- or rather small-sized carabid beetle recently described by DEUVE (1987, p. 386) from Mt. Lu Shan, situated at the northern end of Jiangxi Sheng, Southeast China. In the original description, it was placed in the subgenus *Apotomopterus*. However, my recent examination of detailed structure of the genital organ has proved that this species does not agree with the subgeneric characters of *Apotomopterus* but has all the diagnostic features of *Isiocarabus*. It is therefore transferred to the latter subgenus.

Before going further, I wish to thank Dr. Shun-Ichi UÉNO of the National Science Museum (Nat. Hist.), Tokyo, for his kindness in reading the manuscript of this paper. I am indebted to Dr. Hisatoshi KEZUKA, Tokyo, who gave me permission to examine valuable specimens in his collection, and to Mr. Kunio KUME, Tokyo, who kindly submitted the specimens to me for study. I am also grateful to Dr. Thierry DEUVE of the Muséum National d'Histoire Naturelle, Paris, for his kindness in providing with reprinted papers.

Carabus (*Isiocarabus*) *dargei* DEUVE, 1987

(Figs. 1–2)

Carabus (*Apotomopterus*) *dargei* DEUVE, 1987, Nouv. Rev. Ent., (n.s.), **4**, p. 386; type locality: Chine, Jiangxi, Lu Shan, 1,000 mètres.

Male genitalia. Aedeagus a little shorter than half the elytral length; apical lobe feebly protrudent and subangulate on the ventral margin near the base; ostium lobe absent at the membraneous preostium; endophallus rather narrow and elongate, with a copulatory piece situated a little before the middle on the dorsal wall; viewed dorsally, copulatory piece tongue-shaped, widest at the base, almost parallel-sided in the median portion, and gently rounded at the apex; viewed laterally, copulatory piece thickened and rather sharply curved ventrad at the base, then gradually narrowed to

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[1] Sensu KWON & LEE (1984, p. 39). BREUNING (1932) included *Isiocarabus* in the subgenus *Apotomopterus* as one of the sections, but here I treat the former as a distinct subgenus phylogenetically different from the latter because of the peculiarity in the endophallic structure.

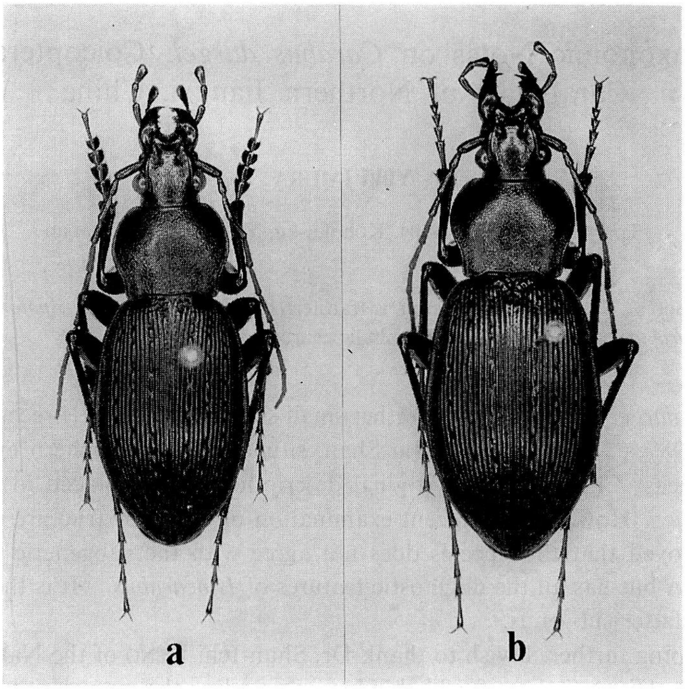

Fig. 1. *Carabus* (*Isiocarabus*) *dargei* DEUVE, from Mt. Lu Shan, northern Jiangxi, Southeast China; a, ♂; b, ♀.

the apex, directed towards the dorsal base of endophallus; basal sclerite situated a little to the left of the median line of dorsal wall of endophallus, reduced to a small patch and a few accessory spots indicated by assemblage of pigmented granules, with the surface sparsely scattered with minute hairs; lobe at the side of basal sclerite well developed to form a subtriangular membraneous projection; basal lobes well developed on both sides, the left one being larger than the right.

Female genitalia. Bursa copulatrix well developed, extending dorso-anteriad, and gradually narrowed to the apex in dorsal view; outer plate of ligular apophysis barrel-shaped, about 1.6 times as long as wide, not so strongly sclerotized, with marked pigmentation along the longitudinal mid-line; vertical plate rather high and not strongly pigmented; inner plate almost round in shape, only a little wider than long, widest a little before the middle, cup-like, with the surface smooth; vaginal appendix recognisable though atrophic; epivaginal sclerite very small, with subtriangular basal pigmentation and moderately developed vertical plate.

Specimens examined. 1 ♂, 1 ♀, Mt. Lu Shan, ca. 1,000 m alt., Jiangxi, China, 23∼27–V–1986, in coll. H. KEZUKA; 7 ♂♂, 8 ♀♀, same locality, X–1987, in coll. Y. IMURA.

Notes. In addition to the above genitalic characters, some external features such as the absence of gular setae and the presence of hairless ventral depressions on seg-

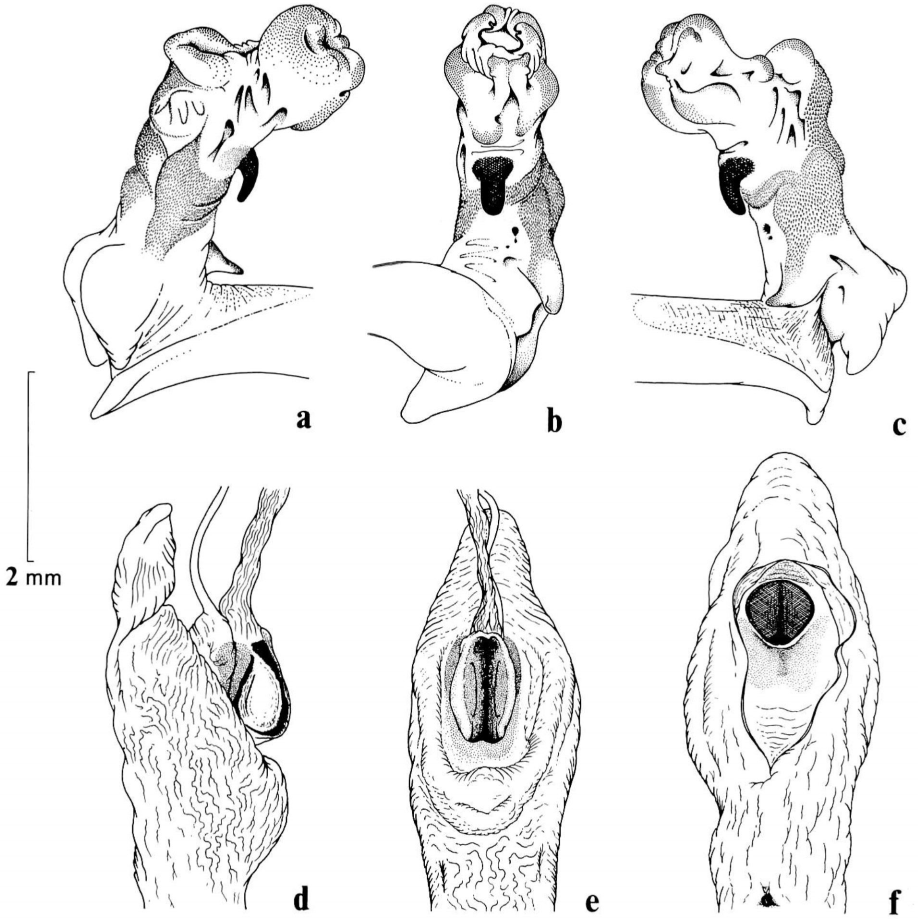

Fig. 2. Genital organ of *Carabus* (*Isiocarabus*) *dargei* Deuve, from Mt. Lu Shan, northern Jiangxi, Southeast China. —— a–c, Endophallus; a, right lateral view; b, dorsal view; c, left lateral view. —— d–f, Female genitalia; d, right lateral view; e, ventral view; f, dorsal view (dorsal wall of vagina is partly removed to show inner plate of ligular apophysis).

ments 5–7 of male antennae also support the fact that this species is a member of *Isiocarabus*. Though our knowledge is still very poor about this Oriental subgenus, the present species is probably most closely allied to *C.* (*I.*) *orphniopterus* Hauser occurring in Zhejiang Sheng and Fojian Sheng, so far as I have examined.

All the specimens collected in October, 1987, are more or less teneral, which seems to suggest that one of the emergence periods of this beetle is in this season.

要　約

井村有希: *Carabus dargei* の分類学的位置. —— *Carabus dargei* は最近, 中国江西省北部の廬山

から記載された，中ないしやや小型のオサムシである．原記載において，その所属はトゲオサムシ亜属 *Apotomopterus* に置かれたが，交尾器の基本形態は *Isiocarabus* のそれに一致している．したがって本稿では，本種の所属を前者から後者へ移し，その根拠となる ♂♀ 交尾器の図示と記載を行なった．本種が *Isiocarabus* の一員であることは，咽頭剛毛を欠く点，♂ 触角第 5～7 節の腹側に無毛凹陥部を有する点などからもあきらかである．

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Elytra, Tokyo, **18** (1): 19–29, May 15, 1990

The *Trechiama* (Coleoptera, Trechinae) of the Island of Taiwan[1]

Shun-Ichi UÉNO

Department of Zoology, National Science Museum (Nat. Hist.),
Shinjuku, Tokyo, 169 Japan

Abstract The Taiwanese species of the trechine genus *Trechiama* are dealt with. Of the three species hitherto known, *T. alatus* S. UÉNO is either alate or brachypterous and is widely distributed over the high mountains above 1,200 m in altitude. The other two are anophthalmic, subalpine, strictly localized, and distinguished from the other congeners as a particular group. The new names given are *T. hamatus* and *T. chui*, and the new species-group is called the *hamatus* group.

It has been known for more than ten years that a peculiar species of the trechine genus *Trechiama* occurs on a high mountain of Taiwan (UÉNO, 1979, 1982, pp. 75–76, 1988, pp. 39–40). It is peculiar because it is the only known species of the genus that still retains almost fully developed hindwings, and can be regarded as a positive proof that the main eastward dispersal of the genus was made by winged ancestors.

This interesting species was previously recorded only from the Kuan-shan Mountains at the southern part of the Chung-yang Mountain Range. However, our investigations of the high altitude fauna made in the summer and autumn of 1989 have revealed that the species is widely distributed over the Taiwanese mountains, not only in the subalpine zone but also at lower elevations, and that the ordinary habitats of the trechine beetle are almost always associated with running waters. One of the purposes of the present paper is to record these newly obtained data.

The other and more important purpose is to introduce two new anophthalmic species into science. They were discovered by Professor Yoshiaki NISHIKAWA who participated in the second expedition made in the autumn. An anophthalmic trechine beetle, *Masuzonoblemus tristis* S. UÉNO, was already brought to light by the summer expedition (UÉNO, 1989), but this small species is typically endogean and not directly related to the cave fauna. On the other hand, the two new *Trechiama* are long-legged and light-coloured; one of them was dug out from the upper hypogean zone and the other was found in an abandoned mine adit. Their occurrence in the subalpine zone of central Taiwan is an unquestionable proof that the island has a true terrestrial cave fauna, even if small, at least at its high altitude.

The abbreviations used in this article are the same as those explained in previous papers of mine.

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Before going into further details, I wish to express my hearty thanks to the following members of the 1989 expeditions, whose expert investigations enabled me to complete the present paper: Professors Yoshiaki NISHIKAWA, Masataka SATÔ, Tsukané YAMASAKI and Yau-I CHU, Drs. Mamoru OWADA and Hirotsugu ONO, and Mr. Chiun-chen KER.

Trechiama (s. str.) ***alatus*** S. UÉNO, 1979

Trechiama (s. str.) *alatus* S. UÉNO, 1979, Bull. natn. Sci. Mus., Tokyo, (A), **5**, p. 202, figs. 1–4; type locality: T'ien-ch'ih [on the Kuan-shan Mts.]. —— CASALE & LANEYRIE, 1982, Mém. Biospéol., **9**, p. 87.

Additional specimens examined. 1 ♀, Kuan-shan-ya-k'ou (W side), 2,750 m alt., Kuan-shan Mts., Kao-hsiung Hsien, 3–VI–1987, S. KASAHARA leg.; 1 ♂, same locality, 13–VI–1989, S. UÉNO leg.; 5 ♂♂, 3 ♀♀ (incl. 2 teneral ♀♀), Hsiang-yang, 2,250 m alt., Kuan-shan Mts., T'ai-tung Hsien, 12–VI–1989, S. UÉNO & M. SATÔ leg.; 7 ♂♂, 5 ♀♀ (incl. 2 teneral ♂♂), same locality, 2,140–2,200 m alt., 4~5–XI–1989, Y. NISHIKAWA & T. YAMASAKI leg.; 1 ♀, Mt. Ch'i-lai-nan-feng, 2,450 m alt. on WSW slope, Nan-t'ou Hsien, 25–X–1989, Y. NISHIKAWA leg.; 1 ♂, 1 ♀, same mountain, 2,640 m alt. on SW slope, 27–X–1989, Y. NISHIKAWA leg.; 7 ♂♂, 3 ♀♀, Ch'ueh Shan, Yang-ming Ch'iao, 1,750 m alt., Hsin-lin Hsiang, Hua-lien Hsien, 6–XI–1989, Y. NISHIKAWA leg.; 3 ♂♂, Pi-lu Ch'i, 2,250 m alt., Jen-ai Hsiang, Nan-t'ou Hsien, 22–X–1989, Y. NISHIKAWA leg.; 5 ♂♂, 7 ♀♀, Mt. T'ai-p'ing Shan, ca. 1,200 m alt., I-lan Hsien, 8–XI–1989, Y. NISHIKAWA leg.; 1 ♀, Mt. Hsiao-hsüeh Shan, 2,630 m alt., Ta-hsüeh Mts., T'ai-chung Hsien, 15–VI–1989, M. SATÔ leg.; 3 ♂♂, same locality, 18–X–1989, Y. NISHIKAWA & T. YAMASAKI leg. All deposited in the collection of the Department of Zoology, National Science Museum (Nat. Hist.), Tokyo.

Notes. This is a variable species widely distributed over the mountains of Taiwan. The size alone ranges from 4.65 mm to 6.10 mm, when measured from the apical margin of clypeus to the apices of elytra. It also varies in the size of head, size and convexity of eyes, curvature of the lateral sides of prothorax, intensity of the striation and punctuation of elytra, and the number of setiferous dorsal pores on the third and fifth striae. The specimens from six of the eight known populations are almost fully winged, but the hindwings become abbreviated and are obviously shorter than the elytra in an extended state in the specimens from Mt. T'ai-p'ing Shan and Mt. Hsiao-hsüeh Shan. However, the variation is clinal, and no appreciable genitalic differentiation can be observed, so that I cannot recognize useful subspecies among the known populations. Incidentally, the standard ratios of the body parts in the specimens from Mt. Hsiao-hsüeh Shan, which is the locality most isolated from the others lying on the Chung-yang Mountain Range, are as follows: PW/HW 1.32–1.38 (M 1.34), PW/PL 1.13–1.18 (M 1.16), PW/PA 1.47–1.55 (M 1.51), PW/PB 1.41–1.47 (M 1.44), PB/PA 1.02–1.07 (M 1.05), EW/PW 1.57–1.65 (M 1.60), EL/EW 1.58–1.62 (M 1.59).

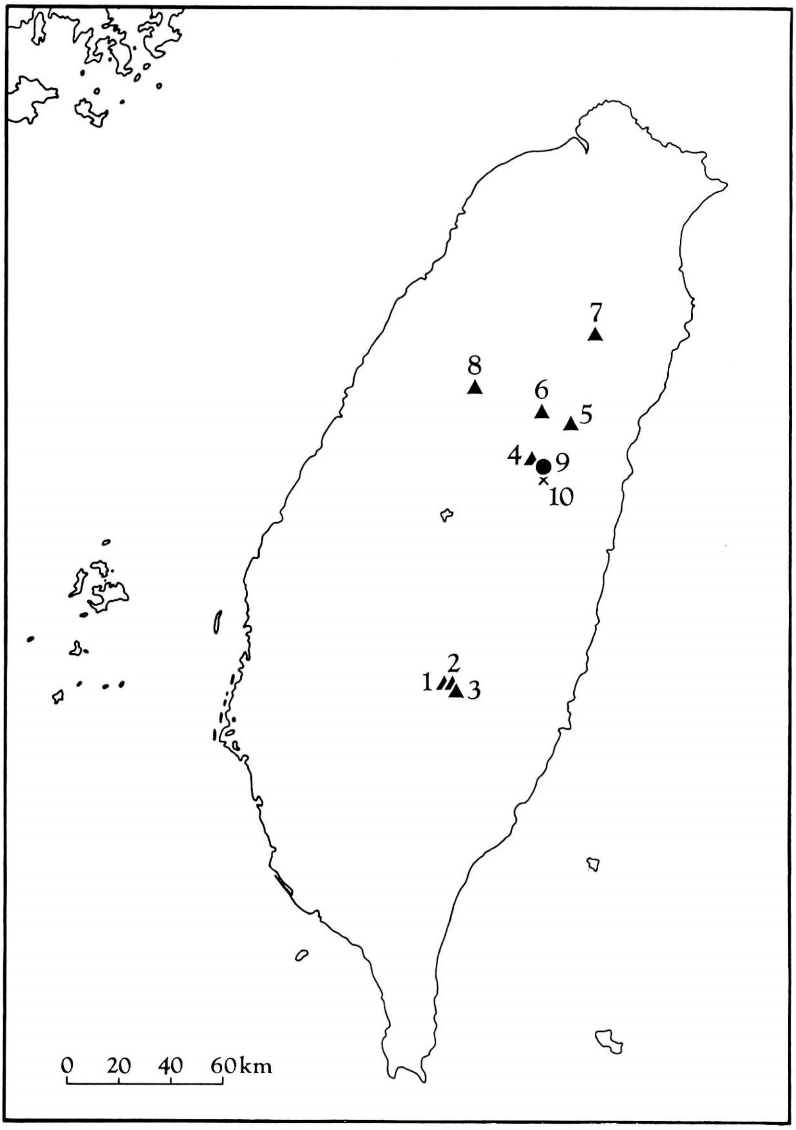


Fig. 1. Map showing the known localities of *Trechiama* in Taiwan. Black triangles: *T. alatus* S. UÉNO. Black circle: *T. hamatus* S. UÉNO, sp. nov. Cross mark: *T. chui* S. UÉNO, sp. nov. —— 1, T'ien-ch'ih; 2, Kuan-shan-ya-k'ou; 3, Hsiang-yang; 4, Mt. Ch'i-lai-nan-feng; 5, Ch'ueh Shan; 6, Pi-lu Ch'i; 7, Mt. T'ai-p'ing Shan; 8, Mt. Hsiao-hsüeh Shan; 9, Mt. Neng-kao-pei-feng; 10, prospecting adit on Mt. Neng-kao-pei-feng.

Trechiama alatus is a hygrophilous species almost always found in shaded places along narrow streams. It sometimes occurs in very wet habitats under cascades or beneath stones half immersed in the water, but is more commonly found under stones or rotten logs lying on the banks of streams, or in the upper layers of colluvia fed by seepages. It seems easier to collect the beetle in the drier season than in the rainy one, since many of the specimens collected by the autumn expedition were met at the sides of the streams that had been flooded when I had visited them early in the summer.

Trechiama (s. str.) ***hamatus*** S. UÉNO, sp. nov.

(Figs. 2–4)

Length: 4.70–4.80 mm (from apical margin of clypeus to apices of elytra).

An anophthalmic species recognized at first sight on its peculiarly slender facies; also remarkable in the unique conformation of male genitalia, especially in the peculiar shape of aedeagal apical lobe and the formation of a protruded sclerite by amalgamation of the sclerotized teeth of the dorso-apical group.

Concolorously yellowish brown, shiny, with the exception of mandibles and narrow edges of lateral margins of prothorax and elytra, which are dark brown; palpi, apical halves of antennae, and legs somewhat paler than body.

Head small, subquadrate, about as long as wide, and depressed above, with entire frontal furrows which are deeply impressed in front, not angulate at middle, and rather gently curved; frons feebly convex, supraorbital areas moderately so, the latter bearing two pair of supraorbital setae on lines slightly convergent posteriad; microsculpture distinct though fine, mostly consisting of transverse meshes; trace of eyes present behind the insertion of antennae; genae glabrous, gently and evenly convex; neck wide, with the anterior constriction distinct at the sides though not deep; labrum transverse, with the apical margin either slightly bisinuate or almost straight; mandibles long and fairly slender, sharply arcuate at the apical parts; mentum imperfectly fused with submentum though the suture between them is complete, with the tooth in apical emargination broad and porrect, either slightly emarginate at the tip or nearly simple; submentum with a transverse row of six setae; palpi slender, with the penultimate segments gently dilated towards apices, apical segments elongated fusiform in proximal two-thirds and thinly cylindrical in terminal portions; antennae slender, reaching apical third of elytra in ♂, apical two-fifths of elytra in ♀; antennal segment 2 about two-thirds as long as segment 3, which is about five-sixths as long as segment 4 or 5, segments 6–10 gradually decreasing in length and becoming three-fourths length of segment 5 at the penultimate one, all subcylindrical, and segments 8–9 each nearly four times as long as wide, terminal segment about as long as segment 7, obviously longer but much narrower than scape.

Pronotum small and narrow, subcordate, wider than head, slightly wider than long, widest at two-thirds from base, and more gradually narrowed towards base than towards apex; PW/HW 1.32–1.36 (M 1.34), PW/PL 1.02–1.08 (M 1.05), PW/PA 1.46–1.54 (M 1.51), PW/PB 1.36–1.42 (M 1.40); sides narrowly bordered and reflexed throughout, moderately arcuate in front, feebly so behind, distinctly sinuate at about basal seventh, and then either subparallel or slightly divergent towards hind angles, which are more or less sharp though hardly produced; both lateral and postangular setae

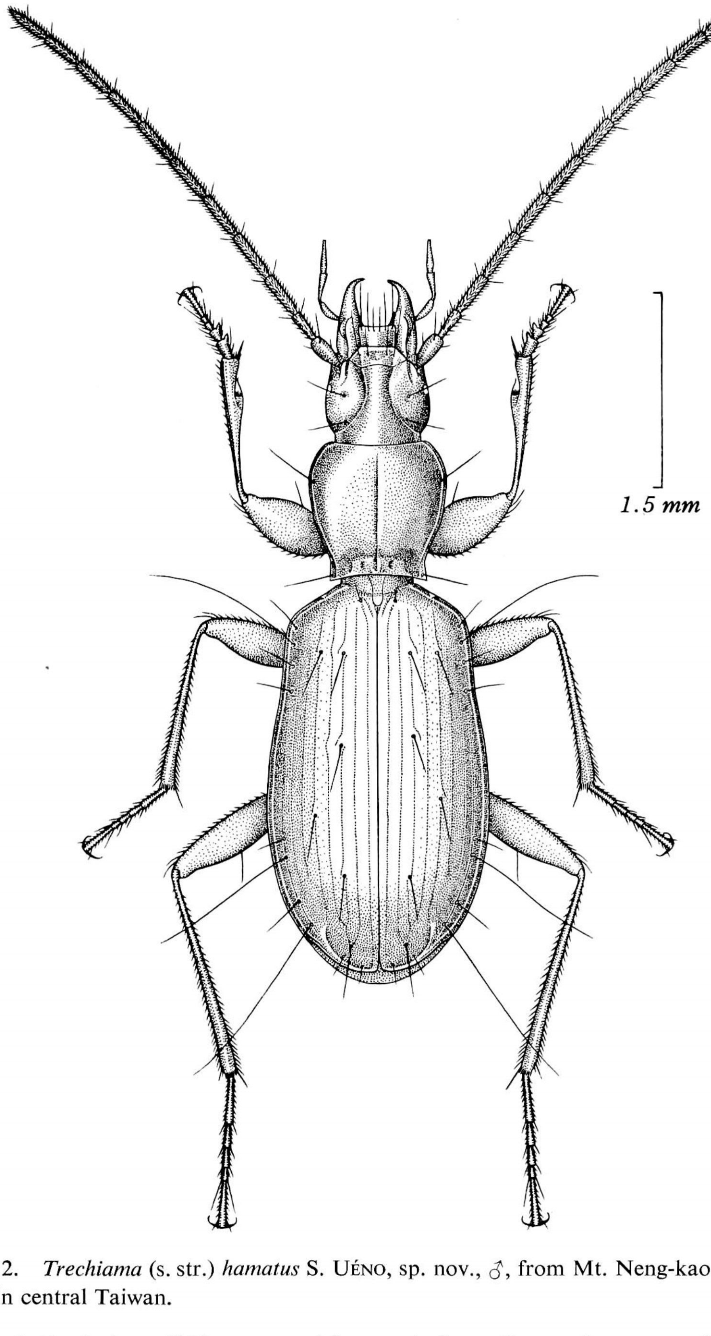


Fig. 2. *Trechiama* (s. str.) *hamatus* S. UÉNO, sp. nov., ♂, from Mt. Neng-kao-pei-feng in central Taiwan.

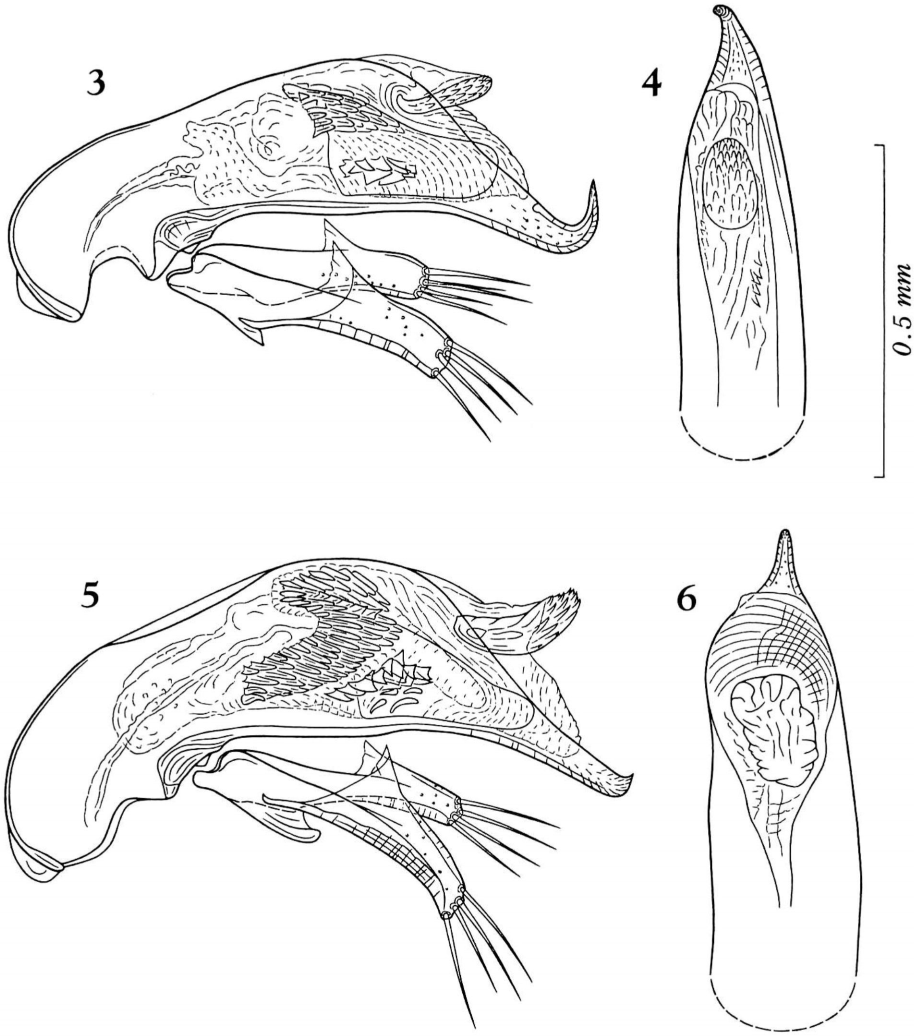
present, the latter being a little removed forwards from the angle; apex a little narrower than base, PB/PA 1.07–1.10 (M 1.09), almost straight or slightly emarginate, with front angles narrowly rounded and hardly produced; base slightly but widely emarginate;

surface convex and completely glabrous, with shallow median line, which becomes deeper and wider in basal area; apical transverse impression vanished; basal transverse impression deep and continuous, shallowly foveolate on each side of median line, and laterally merging into basal foveae, which are not particularly large but deep; postangular carinae either absent or obtuse; basal area narrow, longitudinally strigose along the basal margin; microsculpture formed by fine transverse lines and mostly distinct.

Elytra narrow though much wider than prothorax, oblong-subovate, widest at about three-fifths from bases, and more gradually narrowed towards bases than towards apices; EW/PW 1.62–1.67 (M 1.65), EL/EW 1.66–1.70 (M 1.68); shoulders distinct though rounded, with prehumeral borders complete, nearly straight and oblique; sides moderately reflexed throughout, slightly emarginate behind shoulders, very feebly arcuate at middle, and rounded in apical fourth, with shallow preapical emargination; apices separately rounded, forming a small re-entrant angle at suture; surface widely depressed on the disc, steeply declivous at lateral and apical parts, and slightly compressed behind shoulders; microsculpture formed by fine transverse lines and mostly distinct; striae entire, equally impressed throughout and shallowly crenulate, stria 8 not particularly deep in apical portion; scutellar striole distinct; apical striole short but deep, strongly curved, usually joining or almost joining stria 5 but rarely (in one of the paratypes) joining stria 7; intervals flat even near suture, apical carina obtuse; stria 3 with three setiferous dorsal pores at 1/8–1/7, 1/3–2/5 and about 3/4 from base respectively, stria 5 with two setiferous dorsal pores at 1/8–1/7 from base and about middle; preapical pore situated at the apical anastomosis of striae 2 and 3 on apical declivity, and usually nearer to apex than to suture; humeral set of marginal umbilicate pores somewhat irregular, the fourth pore being slightly isolated from the proximal three.

Ventral surface glabrous and smooth; each sternite usually provided with a pair of setae, but rarely with two setae inserted one after the other on one side; anal sternite with a pair of sexual setae in ♂, with two pair of them in ♀. Legs long and slender; protibiae straight, gradually dilated towards apices, deeply grooved on the external face, and perfectly glabrous on the anterior face; tarsi thin, segment 1 longer than segments 2–3 together but shorter than segments 2–4 together in both meso- and metatarsi, segment 4 with a long ventral apophysis in pro- and mesotarsi; in ♂, protarsal segments 1 and 2 widely dilated, stoutly produced inwards at apices, and furnished beneath with sexual adhesive appendages.

Male genital organ small and lightly sclerotized. Aedeagus about three-tenths as long as elytra, hardly arcuate, and dorsally dilated towards apical orifice, with large, remarkably hooked apical lobe; basal part fairly elongate, hardly curved ventrad, with small basal orifice, whose sides are very deeply emarginate; sagittal aileron very small and hyaline; viewed laterally, apical lobe strongly curved dorsad, forming a large hook with acute tip; viewed dorsally, apical lobe elongated subtriangular, with the terminal portion inclined to the right; ventral margin slightly bisinuate in profile.



Figs. 3–6. Male genitalia of *Trechiama* spp. from central Taiwan; left lateral view (3, 5), and apical part of aedeagus, dorso-apical view (4, 6). —— 3–4. *T.* (s. str.) *hamatus* S. Uéno, sp. nov., from Mt. Neng-kao-pei-feng. —— 5–6. *T.* (s. str.) *chui* S. Uéno, sp. nov., from a prospecting adit on Mt. Neng-kao-pei-feng.

Inner sac scaly though the scales are mostly membraneous; copulatory piece large though thin, about one-third as long as aedeagus, high at the basal part, and widely rounded at the apex, with a subtriangular patch of heavily sclerotized teeth at the left side of the dorsal part in proximal half and also with a small patch of large teeth on the left face before the middle; dorso-apical teeth-patch very compact, forming an ovate piece composed of amalgamated teeth, and dorso-apically protruding from apical orifice. Styles large and broad, left style being obviously longer than the right;

in the holotype, left style provided with four apical setae, while the right bears five apical setae.

Type series. Holotype: ♂, allotype: ♀, paratypes: 2 ♀♀, 26–X–1989, Y. NISHIKAWA leg. Deposited in the collection of the Department of Zoology, National Science Museum (Nat. Hist.), Tokyo.

Type locality. Mt. Neng-kao-pei-feng, 2,870 m in altitude on NW slope, in Nan-t'ou Hsien, central Taiwan.

Notes. This remarkable new species is upper hypogean, having been found by NISHIKAWA near the heads of two small gullies without running water in a mixed subalpine forest on the northwestern slope of Mt. Neng-kao-pei-feng. The gullies are about 200 m apart from each other, and the northern gully is the one in which the single known specimen of the microphthalmic staphylinid, *Quedius masuzoi* Y. WATANABE (1989, p. 170, figs. 1–4), was dug out by myself early in the summer. All the type specimens of the trechine beetle were dug out from loose screes of mudstone partly covered with small plants, a habitat typical for upper hypogean species.

This and the following new species form a twelfth species-group of the subgenus *Trechiama* (s. str.), mainly characterized by the following combination of morphological features: anophthalmic, depigmented and apterous; body elongate, with small head and prothorax; pronotum more or less subcordate, with two pair of marginal setae but devoid of discal ones; elytra elongate, somewhat compressed behind shoulders, and entirely striate; setiferous dorsal pores three on stria 3 and two on stria 5; preapical pore present on apical declivity; humeral set of marginal umbilicate pores somewhat irregular; aedeagus with dorsally hooked apical lobe; copulatory piece and sclerotized teeth-patches present, dorso-apical teeth-patch forming a sclerite by fusion of component teeth and protruding from apical orifice.

It is difficult to determine the true affinity of this new species-group, but it may have some remote relationship to the group of *T. alatus*. It is not directly related to any of the species-groups occurring in the Japanese Islands.

Trechiama (s. str.) ***chui*** S. UÉNO, sp. nov.

(Figs. 5–6)

Length: 5.00 mm (from apical margin of clypeus to apices of elytra).

Externally very close to *T. hamatus*, only distinguishable from the latter by the narrower prothorax, but strikingly different in the configuration of male genitalia.

Slightly larger in size and somewhat darker in colour than *T. hamatus*. Head perfectly identical with that of *T. hamatus*, with the exception of mentum tooth which is bifid at the tip. Pronotum evidently narrower than in *T. hamatus*, widest at about five-eighths from base, with the sides much more feebly arcuate in front and parallel to each other before hind angles so as to make the ante-basal sinuation deeper and the hind angles rectangular; apical transverse impression vague though bearing longitudinal striations. Elytra as in *T. hamatus*, but the disc bears a round depression in basal third laterally delimited by raised basal portion of interval 5 and the striae are only indistinctly crenulate; apical striole joining stria 5; stria 3 with three setiferous dorsal pores at 1/6, 2/5 and 3/4 from base respectively, stria 5 with two setiferous dorsal pores at 1/8 and 4/7 from base respectively; slight irregularity of the humeral set of marginal umbilicate pores as in *T. hamatus*. Ventral surface and legs as in *T. hamatus*, though the legs are slightly longer. Standard ratios of body parts: PW/HW 1.30, PW/PL 0.98, PW/PA 1.49, PW/PB 1.37, PB/PA 1.09, EW/PW 1.76, EL/EW 1.67.

Male genital organ similar in basic conformation to that of *T. hamatus*, but more robust and more heavily sclerotized, strikingly differing from the latter in the configuration of apical lobe and the development of inner armature, especially of proximal teeth-patch. Aedeagus slightly more than three-tenths as long as elytra, moderately compressed, and high behind middle, with the dorsal margin semicircularly rounded in profile; basal part elongate and moderately curved ventrad, with large basal orifice, whose sides are deeply emarginate only at the posterior parts; sagittal aileron small and hyaline; viewed laterally, apical lobe straightly produced ventro-distad, with the tip only minutely hooked dorsad; viewed dorsally, apical lobe very narrow, straight and almost pointed at the tip, being produced from the distal end of abruptly narrowed apical part; ventral margin bisinuate in profile. Inner armature much more developed than in *T. hamatus*; copulatory piece as in the latter species, though narrower at the apical part; proximal teeth-patch very large and elongate, consisting of numerous, heavily sclerotized teeth, and sigmoidally curved from inside the left wall to above the dorsal margin of copulatory piece; left lateral teeth-patch larger and consisting of larger number of teeth than in *T. hamatus*; dorso-apical teeth-patch also larger than in *T. hamatus* and more solidly amalgamated into an oblong piece, component teeth being observable only near the apex. Styles narrower than in *T. hamatus*, left style much longer than the right, each bearing four slender setae at the apex.

Female unknown.

Type specimen. Holotype: ♂, 26–X–1989, Y. NISHIKAWA leg. Deposited in the collection of the Department of Zoology, National Science Museum (Nat. Hist.), Tokyo.

Type locality. Prospecting adit on Mt. Neng-kao-pei-feng, 2,830 m in altitude on NW slope, in Nan-t'ou Hsien, central Taiwan.

Notes. It was most unexpected that two closely related species of anophthalmic *Trechiama* did occur in a small area on the same slope of a mountain. The prospecting adit of an abandoned gold mine, in which the type specimen of *T. chui* was found, is only about 300 m distant to the south from the southern one of the two gullies that harbour *T. hamatus*. All these habitats lie in the same subalpine forest, though the gullies are a little more shaded than the entrance to the adit. Their inhabitants are, however, specifically distinctive beyond all reasonable doubt in view of the strikingly pronounced genitalic differentiation, even though they are very closely similar to each other in external morphology.

As has been repeatedly pointed out, artificial cavities can be regarded as a continuation of the upper hypogean zone so far as concerned with terrestrial cave animals. Why, then, speciation of anophthalmic *Trechiama* did take place between the gullies and the mine adit is a problem unclarified at the present moment. It is possible that the habitat segregation of the two species now known could be accidental, caused by their rarity, and that *T. chui* could be found someday in coexistence with *T. hamatus* in the same scree. Though further investigations are needed for verifying this surmise, we can at least record now that *T. chui* is the first trechine beetle actually found in a subterranean cavity of Taiwan.

The prospecting adit is excavated at the side of the narrow path traversing the western slope of Mt. Neng-kao-pei-feng. It is not long, and besides, a cave-in has taken place about a half way from the entrance, forming a precarious heap of rock debris (mudstone and sandstone) mingled with rotten mine posts. The single known specimen of *T. chui* was found at this spot, from beneath a fist-sized stone lying on the heap. I myself examined the mine adit early in the summer of the same year, but failed in finding out any hypogean animals of biospeological interest.

It is my pleasure to dedicate the present species to Professor Yau-I CHU of the Department of Plant Pathology and Entomology, National Taiwan University, without whose support our investigations of the high altitude fauna of Taiwan could never have achieved such a successful result.

要　約

上野俊一: 台湾にすむナガチビゴミムシ属の甲虫類. —— ナガチビゴミムシ属の甲虫は，これまでに1種だけ台湾から知られていた. それは *Trechiama alatus* S. UÉNO, 1979 で，中央山脈南部の關山付近から報告され，100 種を超える同属種のうちで唯一の後翅がある種として注目されてきた. 1989 年に実施された 2 回の調査で，この種の産地が新たに 7 ヵ所発見され，ある程度以上の高さに広く分布していることが明らかになった. しかも，北部の太平山や小雪山では，全個体の後翅がかなり退化していることもわかった.

いっぽう，台湾中央部の能高北峯では，複眼が退化し体色の淡くなった同属のメクラチビゴミムシが，亜高山帯の地下浅層と廃坑から発見された. 精査の結果，これらは明らかな 2 新種に分類されることがわかったので，それぞれに *T. hamatus* S. UÉNO および *T. chui* S. UÉNO という新名を与えて記載し，この 2 種に対して新しい種群を認定した. 種群の類縁関係は今のところよくわからないが，体形でも雄交尾器の構造でも，日本の盲目種とはかなり異なっている. なお，真の洞窟性メクラチビゴミムシが台湾で発見されたのはこれが最初で，調査しにくいほかの高山にも，別の種が生息しているものと推定される.

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Elytra, Tokyo, **18** (1): 29–30, May 15, 1990

A New Subspecies of *Trechiama exilis* (Coleoptera, Trechinae)[1]

Shun-Ichi UÉNO

Department of Zoology, National Science Museum (Nat. Hist.),
Shinjuku, Tokyo, 169 Japan

Trechiama exilis S. UÉNO (1983, p. 70, figs. 1–3; 1985, p. 73, pl. 14, fig. 3) is an isolated species tentatively placed in the group of *T. ohshimai*. It is upper hypogean, so far known only from a small hill in Takamatsu City at the northeastern corner of the Island of Shikoku. To the west of this hill beyond the Gôtô-gawa River, there is a larger hill whose northern part is called Goshiki-dai. It is at the western side of this hill that a new discovery was made by Mr. Masaaki SATOU.

The trechine beetle from this new locality seems also to belong to *T. exilis*, but is evidently different from the Takamatsu specimens in the shape of the prothorax. In this short article, I am going to describe it as a new grographical race of the species. I am much indebted to Mr. Masaaki SATOU for his kindness in submitting his collection to me for taxonomic study.

Trechiama (s. str.) ***exilis cordatus*** S. UÉNO, subsp. nov.

[Japanese name: Goshiki-mekura-chibigomimushi]

(Fig. 2)

Length: 4.70–5.00 mm (from apical margin of clypeus to apices of elytra).

Distinguished from the nominotypical subspecies mainly by differently shaped prothorax

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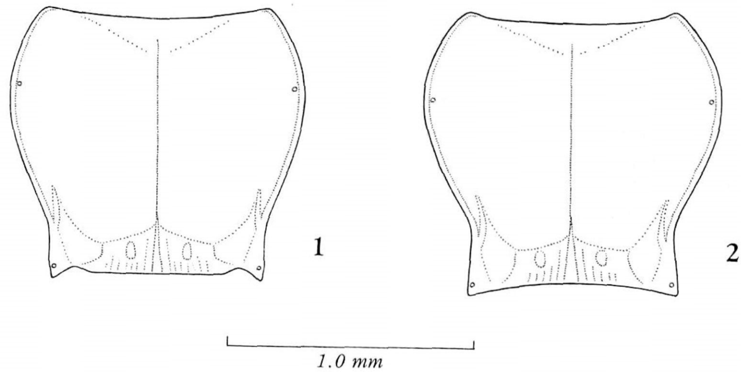
[1] This study is supported by the Grant-in-aid for Scientific Research No. 63540603 from the Ministry of Education, Science and Culture, Japan.



Figs. 1–2. Pronota in two subspecies of *Trechiama* (s. str.) *exilis* S. UÉNO. —— 1, *T. e. exilis* S. UÉNO, ♂, from Suribachi-dani on Iwaseo-yama; 2, *T. e. cordatus* S. UÉNO, subsp. nov., ♂, from Shiraminé-zan.

and longer apical lobe of aedeagus. Head as in the nominotypical subspecies. Pronotum somewhat larger and more regularly cordate than in the nominotypical subspecies, with the sides more strongly arcuate in front, more deeply sinuate at about two-ninths from base, and then either subparallel or slightly divergent towards hind angles, which are obviously less sharp than in the nominotypical subspecies due mainly to absence of distinct lateral emarginations of basal border; front angles slightly advanced; base almost straight or slightly oblique at the sides, not distinctly emarginate inside hind angles; PW/HW 1.33–1.37 (M 1.35), PW/PL 1.10–1.17 (M 1.14), PW/PA 1.41–1.47 (M 1.45), PW/PB 1.38–1.46 (M 1.43), PB/PA 0.99–1.07 (M 1.02). Elytra as in the nominotypical subspecies, but the prehumeral borders are slightly more oblique and the basal portion of stria 5 is less deeply impressed; EW/PW 1.50–1.58 (M 1.56), EL/EW 1.62–1.66 (M 1.64). Aedeagus more distinctly curved ventrad at the basal part, and with longer apical lobe which is narrower and slightly arcuate ventrad in lateral view.

Type series. Holotype: ♂, 5–V–1987, M. SATOU leg. Allotype: ♀, 17–V–1987, M. SATOU leg. Paratypes: 1 ♂, 5–V–1987, M. SATOU leg.; 1 ♂, 17–V–1987, M. SATOU leg. All deposited in the collection of the Department of Zoology, National Science Museum (Nat. Hist.), Tokyo.

Type locality. Shiraminé-zan, 70 m in altitude at the northeastern foot, in Ohmi-chô of Sakaidé-shi, Kagawa Prefecture, in northeastern Shikoku, Southwest Japan.

Notes. The type locality is situated near the southwestern edge of Goshiki-dai about 8.6 km west by north of Suribachi-dani on Iwaseo-yama, the only known locality of the nominotypical subspecies. The type specimens were dug out from a scree at the side of a gully, which flows northwest into the Ohmi-gawa River.

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Elytra, Tokyo, **18** (1): 31–34, May 15, 1990

A New *Trechodes* (Coleoptera, Trechinae) from near the Northwestern Corner of Thailand

Shun-Ichi UÉNO

Department of Zoology, National Science Museum (Nat. Hist.),
Shinjuku, Tokyo, 169 Japan

Abstract A new species of the trechodine genus *Trechodes* is described from near the northwestern corner of Thailand under the name of *T. satoi*. It is closely related to *T. leclerci* DEUVE, but differs in paler coloration, much shorter and less oblique genae, much longer and differently shaped apical lobe of aedeagus, and presence of three sclerotized teeth of the inner armature.

Late in the autumn of 1989, Professor Masataka SATÔ made a short collecting trip to northern Thailand and collected a pair of specimens of a *Trechodes* near the Burmese border. At first sight, they looked like *T. leclerci* DEUVE (1987, p. 145, figs. 3–4), which is widely distributed on the mountains along the western side of the country, but a close examination has revealed that they have some peculiarities of specific importance. This is most unexpected, since the locality of SATÔ's specimens is only about 120 km distant to the northwest from Mt. Doi Suthep, which harbours *T. leclerci* (cf. UÉNO, 1989), and since these trechodines are good fliers. Anyway, I am going to describe the new species in the present paper under the name of *T. satoi*, The abbreviations used herein are the same as those explained in one of my previous papers (UÉNO, 1988, pp. 499–500).

Before going further, I have to thank Professor Masataka SATÔ of Nagoya Women's University, who kindly submitted his collection to me for taxonomic study.

Trechodes satoi S. UÉNO, sp. nov.

(Figs. 1–3)

Length: 2.85–3.01 mm (from apical margin of clypeus to apices of elytra).

Closely allied to *T. leclerci* DEUVE and barely distinguished from it by paler coloration of body with more clearly defined dark band on elytra and much shorter genae, but decisively different in the configuration of male genitalia, above all in that of aedeagal apical lobe and inner armature.

Colour light reddish brown, polished; elytra, propleura and epipleura pale yellowish brown; dark brown band on elytra clearly defined, occupying the median third on the disc, extending anteriorly along suture and lateral margins, and posteriorly along the latter; palpi, five apical segments of antennae, and legs pale, with tibiae

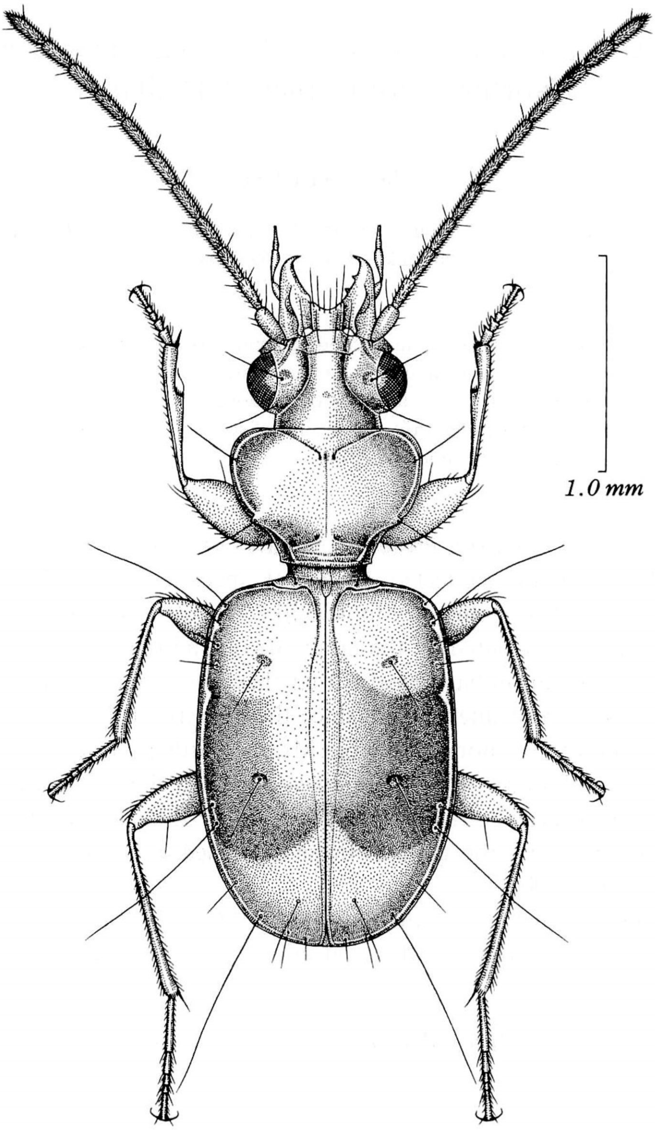
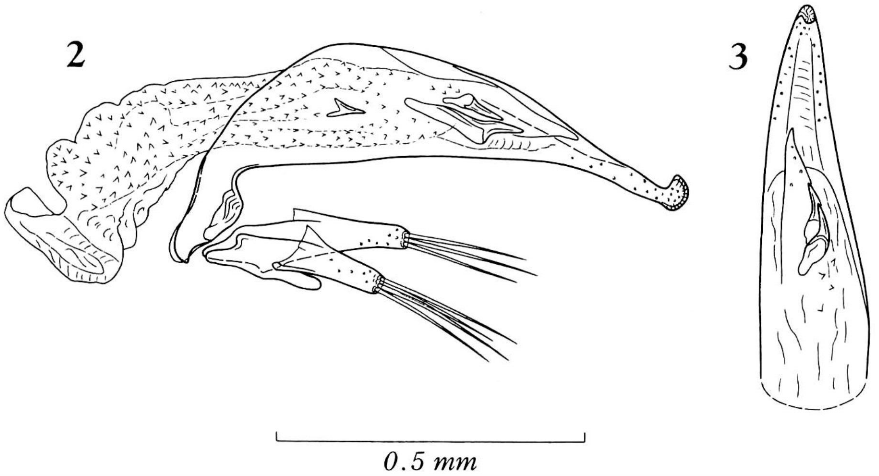


Fig. 1. *Trechodes satoi* S. UÉNO, sp. nov., ♂, from Mae Suya in Northwest Thailand.

more or less infuscated at the proximal portions.

Head transverse, with protruding eyes and very short genae, the latter of which are only slightly oblique and about one-tenth as long as the former; antennae somewhat longer than in *T. leclerci*, reaching the middle of elytra in ♀, slightly longer than that in ♂. Other external features as in *T. leclerci*. Standard ratios of body parts: PW/HW ♂ 1.23, ♀ 1.21, PW/PL ♂ 1.48, ♀ 1.45, PW/PA ♂ ca. 1.61, ♀ ca. 1.54, PW/PB ♂♀ 1.28, PW/BP ♂ 2.07, ♀ 2.04, PB/PA ♂ ca. 1.26, ♀ ca. 1.20, PA/BP ♂ ca.



Figs. 2–3. Male genitalia of *Trechodes satoi* S. Uéno, sp. nov., from Mae Suya in Northwest Thailand; left lateral view (2), and apical part of aedeagus, dorso-apical view (3).

1.29, ♀ ca. 1.33, EW/PW ♂ 1.37, ♀ 1.40, EL/EW ♂ 1.36, ♀ 1.40.

Male genital organ large, elongate, and rather lightly sclerotized. Aedeagus about a half as long as elytra, hardly arcuate, highest at about proximal third, and gradually tapered towards apex, with an elongated subtriangular ligule above apical orifice, which is slightly curved at the terminal portion and sharply pointed at the tip; dorsal margin rather strongly arcuate before the middle in profile; basal lobes abruptly bent ventrad and fairly elongate; apical lobe very long, flattened, and ventrally curved at the base; viewed dorsally, apical lobe gradually tapered towards the blunt extremity and somewhat inclined to the left; viewed laterally, apical lobe narrow, nearly straight though gently curved ventrad at the base, and forming a fairly large, semicircular dorsal hook at the extremity. Inner sac largely covered with minute, poorly sclerotized teeth and armed with three, heavily sclerotized, stout teeth, of which the apical two lie one above the other just inside apical orifice and the other smaller one at about proximal third. Styles small, left style a little shorter than the right and provided with four long apical setae, while the right style bears three apical setae.

Type series. Holotype: ♂, allotype: ♀, 6–XI–1989, M. Satô leg. Deposited in the collection of the Department of Zoology, National Science Museum (Nat. Hist.), Tokyo.

Type locality. Mae Suya, ca. 50 km NNE of Mae Hong Son, in Changwat Mae Hong Son, Northwest Thailand.

Notes. This is a fourth species of *Trechodes* recorded from Southeast Asia. One of the four, *T. cauliops* (H. W. Bates) (1892, p. 298; Jeannel, 1926, pp. 488, 490, figs. 262–263, 271) from Burma, forms a species-group of its own, and is considerably different from the others. The Philippine species, *T. bakeri* Jeannel (1926, pp. 488, 491, fig. 266; Uéno, 1988, p. 500, figs. 1–3), is also unique because of the peculiar development of copulatory pieces inside the aedeagal inner sac and the modified terminal spurs of the male metatibiae. Thus, the two Thai species have no close allies now known in the neighbouring territories. It is, however, probable that either these species or their relatives will be found someday in other parts of Indochina and possibly also in southern provinces of China, when political situation allows us to make more extensive investigations in that part of the Asian Continents.

The type locality of *T. satoi*, Mae Suya, lies in one of the upper courses of the Mae Nam Pai, a tributary of the Salween River. According to SATÔ, the type specimens were found from beneath stones lying in a humid spot near the head of a light gully, which had no running water at that time of the dry season. It appeared, however, that the collecting site might become the basin of a cascade on rainy days, so that it kept much moisture under the cover and made a habitat favourable for hygrophilous beetles.

要　　約

上野俊一：タイ北西部で発見されたミズギワチビゴミムシ属の1新種．―― ミズギワチビゴミムシ族 Trechodini の甲虫類は，主として南半球に分布し，アジアには種類がきわめて少ない．これまでに，フィリピン，タイ，ビルマおよびネパールから2属4種が知られているが，どの種についてもあまり詳しい事情はわかっていない．

昨年の晩秋，タイ国北西端のメ・スヤで，佐藤正孝教授が採集された1対のミズギワチビゴミムシを検討した結果，タイからの既知種にごく近縁ではあるものの，体色，頰部の長さ，雄交尾器の形状などに明らかな相違のあることがわかったので，新種と認めて記載し，*Trechodes satoi* S. UÉNO という新名を与えた．

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Elytra, Tokyo, **18** (1): 35–38, May 15, 1990

A New Alpine Patrobine Carabid Beetle from Central Honshu, Japan

Seiji Morita

Motoazabu 1–3–28–405, Minato-ku, Tokyo, 106 Japan

Abstract A new patrobine carabid beetle is described from Mt. Haku-san in Honshu, Central Japan, under the name of *Apatrobus hasemiya*. It is related to *A. echigonus* (Habu et Baba), but differs from it mainly in the configuration of male genitalia.

In the present paper, I am going to describe a new patrobine carabid beetle recently discovered in the alpine zone of Mt. Haku-san, Central Honshu, Japan. It looks like a member of the group of *A. echigonus* (Habu et Baba) (1962, pp. 143–147) in having the simple apical lobe of aedeagus, but clearly differs from all the known members of the group mainly in the shape of proximal copulatory piece of inner sac. It must be a new species, and I prefer to introduce it into science.

The abbreviations used herein are as follows: HW – greatest width of head; PW – greatest width of pronotum; PL – length of pronotum, measured along the mid-line; PA – width of pronotal apex; PB – width of pronotal base; EW – greatest width of elytra; EL – greatest length of elytra; M – arithmetic mean.

The holo- and allotypes are preserved in the National Science Museum (Nat. Hist.), Tokyo. The paratypes are preserved in the collection of the Gifu Prefectural Museum, and of mine.

I am deeply indebted to Dr. Shun-Ichi Uéno of the National Science Museum (Nat. Hist.), Tokyo, for not only giving advice but also reading the original manuscript. Thanks are also due to Messrs. Michiaki Hasegawa and Akihiko Miyano for kindly supplying me with important material.

Apatrobus hasemiya Morita, sp. nov.

[Japanese name: Hakusan-nurechi-gomimushi]

(Figs. 1–7)

Length: 7.38–7.82 mm (from apical margin of clypeus to apices of elytra).

Colour darker than in *A. echigonus*; head large and more convex than in *A. echigonus*; frontal furrows deep and wide with punctures denser and coarser than in *A. echigonus*; anterior supraorbital pore located at about the mid-eye level, posterior one apart from the post-eye level and close to neck constriction which bears coarse punctures; eyes moderately convex; apical margin of labrum usually emarginate,

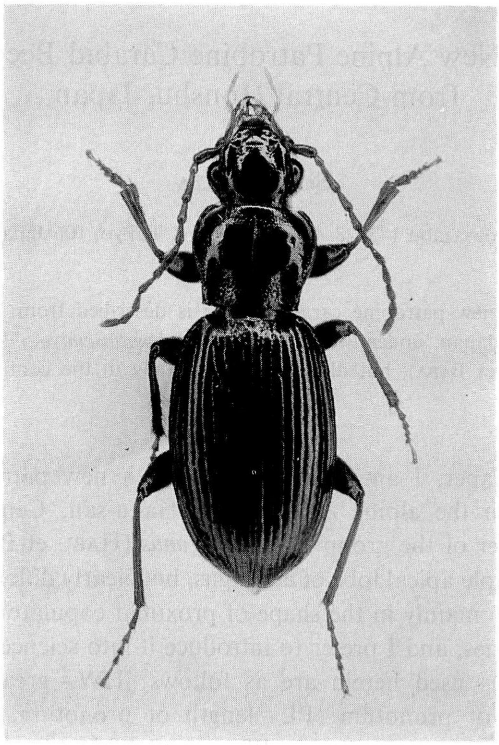


Fig. 1. *Apatrobus hasemiya* MORITA, sp. nov., ♂, from Mt. Haku-san in Shirakawa-mura, Gifu Prefecture.

rarely straight; relative lengths of antennal segments as follows: I: II: III: IV: V: VI: XI≒1: 0.44: 1.28: 0.88: 0.82: 0.84: 1.02.

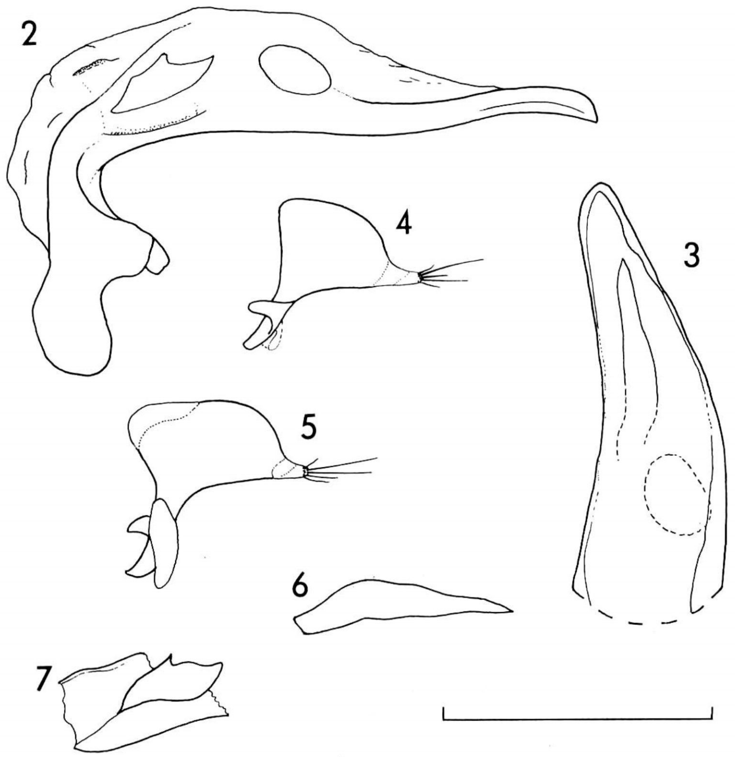
Pronotum rather quadrate; PW/HW 1.25–1.31 (M 1.28) in 5 ♂♂, 1.28, 1.33 (M 1.31) in 2 ♀♀, PW/PL 1.23–1.31 (M 1.26) in 5 ♂♂, 1.32, 1.33 (M 1.33) in 2 ♀♀, PW/PA 1.36–1.42 (M 1.39) in 5 ♂♂, 1.39, 1.39 (M 1.39) in 2 ♀♀, PW/PB 1.26–1.32 (M 1.29) in 5 ♂♂, 1.25, 1.33 (M 1.29) in 2 ♀♀; apex usually straight, rarely weakly emarginate, a little narrower than base; PA/PB 0.90–0.94 (M 0.92) in 5 ♂♂, 0.90, 0.95 (M 0.93) in 2 ♀♀; sides moderately arcuate in front, rather weakly sinuate behind, and then parallel before hind angles; reflexed lateral borders narrow; apical angles rather widely rounded, hind ones a little sharp, without carina; anterior transverse impression nearly obliterated though strongly punctured; median line distinct, somewhat widening basally; base almost straight; basal foveae large, somewhat diverging anteriorly; surface coarsely and densely punctured though minutely punctured on the disc; a small rounded discal fovea present on each side before middle.

Elytra elongated ovate, widest a little behind middle, and narrower than in *A. echigonus*; EW/PW 1.29–1.38 (M 1.35) in 5 ♂♂, 1.30, 1.36 (M 1.33) in 2 ♀♀, EL/EW 1.51–1.60 (M 1.57) in 5 ♂♂, 1.60, 1.61 (M 1.61) in 2 ♀♀; shoulders more oblique than in *A. echigonus*; sides gently arcuate, very slightly sinuate before apices; intervals slightly convex near bases but flat at apices, with microscopic punctures; striae rather deep, sparsely though coarsely punctate, becoming shallower near apices; three dorsal pores on interval 3, situated at 1/5, 2/5–1/2, and 3/5–4/5 from base respectively, anterior two adjoining stria 3, and posterior one usually adjoining stria 3, rarely lying on interval 3.

Prosternum, prepisternum, mesosternum and mesepisternum with coarse punctures; sides of gula and metasternum rarely punctate; in ♀, anal sternite with two pair of setae on a straight transverse line.

Microsculpture of pronotum partially slightly visible, consisting of wide meshes; that of elytra more clearly impressed, consisting of meshes which are more or less irregular in ♀ but nearly isodiametric in ♂.

Male genital organ basically similar to that of *A. echigonus*; aedeagus moderately sclerotized; viewed dorsally, apical half inclined to the right and gradually tapered towards apex, which is very narrowly rounded; inner sac armed with two copulatory



Figs. 2–7. Male genitalia of *Apatrobus hasemiya* MORITA, sp. nov. —— 2, Aedeagus, left lateral view; 3, apical part of aedeagus, dorsal view; 4, separated right style, left lateral view; 5, separated left style, left lateral view; 6, separated apical copulatory piece, ventral view; 7, separated proximal copulatory piece, left lateral view. (Scale: 1.00 mm.)

pieces and a teeth-patch; apical copulatory piece heavily sclerotized, spine-like, pointed at apex but broad in basal half, and obliquely truncated at the left proximal corner; proximal copulatory piece lightly sclerotized and strongly rolled, with no projection; teeth-patch consisting of heavily sclerotized teeth; styles very poorly sclerotized, each bearing five setae.

Type series. Holotype: ♂, 10–VIII–1989, M. Hasegawa & A. Miyano leg. Allotype: ♀, 14～15–IX–1988, M. Hasegawa & A. Miyano leg. Paratypes: 1 ♀, 14～15–IX–1988, M. Hasegawa & A. Miyano leg.; 4 ♂♂, 10–VIII–1989, M. Hasegawa & A. Miyano leg.

Type locality. Midorigaike～Kankurasekkei, 2,400–2,500 m in altitude, Mt. Haku-san, in Shirakawa-mura of Gifu Prefecture, Central Honshu, Japan.

Notes. The type specimens of the present new species were found at two different stations in the alpine zone, at altitudes of about 2,400 m and 2,500 m, respectively. They were obtained from under stones which had been accumulated on the borders of snow patches, coexisting with alpine carabids, *Nippononebria pusilla* S. Uéno and *Bembidion fujiyamai* Habu. They were not so active as in the case of *A. echigonus* of the northern end of the Northern Japanese Alps.

This new patrobine carabid is closely allied to *A. echigonus*. It is, however, distinguished from it by the following points: 1) body smaller and narrower on an average; 2) less arcuate sides of pronotum and of elytra; 3) apical copulatory piece broad and obliquely truncated at the left proximal corner; and, 4) proximal copulatory piece with no projection (cf. Morita, 1987, pp. 36–40).

The specific name of this new patrobine was formed from an arbitrary combination of letters taken from the names of the two collectors, *Hase*-gawa and *Miya*-no.

要　約

森田誠司: 高山性ヌレチゴミムシの1新種. —— 加賀白山の高山帯で採集されたヌレチゴミムシを, 新種と認めて記載した. この種は, 北アルプスの北部より知られているヒメヌレチゴミムシ *Apatrobus echigonus* に近縁であるが, 小型で, おもに雄交尾器の陰茎内部に存在する骨片の形状から識別される. *hasemiya* という新名は, 本種の採集者である長谷川道明, 宮野昭彦の両氏に献名されたものである.

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——— 1987. A new patrobine carabid beetle from Central Honshu, Japan. *Elytra, Tokyo*, **15**: 36–40.

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Elytra, Tokyo, **18** (1): 39–43, May 15, 1990

A New *Pterostichus* (Coleoptera, Carabidae) from the Gotô Islands off Western Kyushu, Southwest Japan

Sumao KASAHARA

Nishifuna 4–9–13, Funabashi City, Chiba, 273 Japan

and

Toshinobu MATSUMOTO

Onda-chô 1170–1, Midori-ku, Yokohama City, Kanagawa, 227 Japan

Abstract A new pterostichine carabid beetle, *Pterostichus* (*Pterostichus*) *gotoensis* sp. nov., is described from the Gotô Islands off western Kyushu, Japan. It belongs to the *sphodriformis* group, but is easily distinguished from all the other known members of the species-group by having peculiarly shaped terminal sternite in the male.

A large species of *Pterostichus* was recently obtained on Wakamatsu-jima of the Gotô Islands, off western Kyushu, Southwest Japan. Though not unlike *P. amanoi* NAKANE (1968, pp. 85–86) at first sight, it belongs to the *sphodriformis* group and is doubtless new to science. In the following lines, we are going to describe it under the name of *Pterostichus* (*Pterostichus**) *gotoensis*.

We deeply thank Dr. Shun-Ichi UÉNO of the National Science Museum (Nat. Hist.), Tokyo, for his advice and for reading the manuscript of this paper, to Ms. Takako NAKAHIRA for her kind support in field researches, and to Messrs. Yoshihiro IKEZAKI and Shôichi IMASAKA for giving us valuable information about the nature of the Gotô Islands.

Pterostichus* (*Pterostichus*) *gotoensis sp. nov.

[Japanese name: Gotô-nagagomimushi]

(Figs. 1–3)

Description. Male. Length (measured from apex of labrum to apices of elytra) 19.2 mm. Width 6.3 mm. Black, shiny; labrum and mandibles dark reddish brown to blackish; palpi, antennae and legs reddish brown; venter reddish brown to dark reddish brown.

Head convex; eyes well convex, somewhat prominent; temporae half as long as eyes, swollen; genae smooth; labrum and mandibles normal, though the latter are relatively long; clypeal suture very fine, rather obsolete on each side; frontal furrows

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* Sensu TANAKA, 1985, p. 113.

shallow though distinct; surface smooth, microsculpture slightly visible; antennae long, extending to a little before the middle of elytra; relative lengths of scape and segments 2–6 as follows:— 1: 0.6: 0.9: 1.05: 1.05: 1; segment 2 ventrally unisetose at apex.

Pronotum subcordate, moderately convex, widest at apical third, 1.3 times as wide as head, 1.24 times as wide as long; lateral margins evenly arcuate in apical halves, then well convergent posteriad, and sinuate before base, basal parts almost parallel; apical margin gently emarginate, not bordered, apical angles produced, rounded at the tips; basal margin a little narrower than the apical, widely emarginate at middle, not bordered, basal angles almost rectangular, blunt at the tips; median line deep; basal foveae distinct, punctate; apical crescent and basal transverse depressions obsolete; surface smooth, microsculpture slightly visible.

Apterous. Elytra oblong-subovate, convex, widest at about middle, 1.23 times as wide as pronotum, 2.63 times as long as pronotum, 1.7 times as long as wide; shoulders rounded; preapical emarginations rather distinct; sutural angles distinct, though blunt at the tips; scutellar striole short, lying on interval 2, and arising from basal pores; striae deeply and finely impressed, minutely crenulate at bottoms; intervals convex, microsculpture well visible, formed by transverse meshes; interval 3 with three dorsal pores, anterior one at about basal third and adjoining stria 3, while the posterior two adjoin stria 2, at about middle and apical fourth, respectively; marginal series of pores 19 in number. Legs slender; metatarsus 1.45 times as long as width of head.

Venter smooth; prosternal process furrowed at middle, vaguely bordered at apex; terminal sternite widely and deeply excavated at middle, apical margin distinctly produced between a pair of marginal setae. Aedeagus strongly bent at basal two-fifths, then widely and distinctly tumid ventrad; ventral surface longitudinally carinate at middle of preapical part, the carina interrupted by a notch; apical lobe small, rounded at apex; inner sac containing a sclerotized copulatory piece near apical aperture; left paramere wide, square; right one rather stout, rounded at apex.

Female unknown.

Holotype. ♂, Wakamatsugoe, Wakamatsu-jima, Gotô Islands, Nagasaki Pref., 1–V–1988, T. MATSUMOTO leg.

The holotype is preserved in the collection of the Department of Zoology, National Science Museum (Nat. Hist.), Tokyo.

Notes. Most pterostichine carabids belonging to the *sphodriformis* group cannot be easily distinguished from one another, because their specific characters are not prominent in general. The present new species is, however, so distinctive in the shape of male terminal sternite that it cannot be confused with any of its relatives hitherto known. Its existence seems to suggest an interesting zoogeographical situation of the Gotô Islands.

Unfortunately, no female specimen of *P. gotoensis* has been available for our study. IMASAKA and EJIMA (1981, pp. 353–361, fig. 4 B) recorded a pterostichine

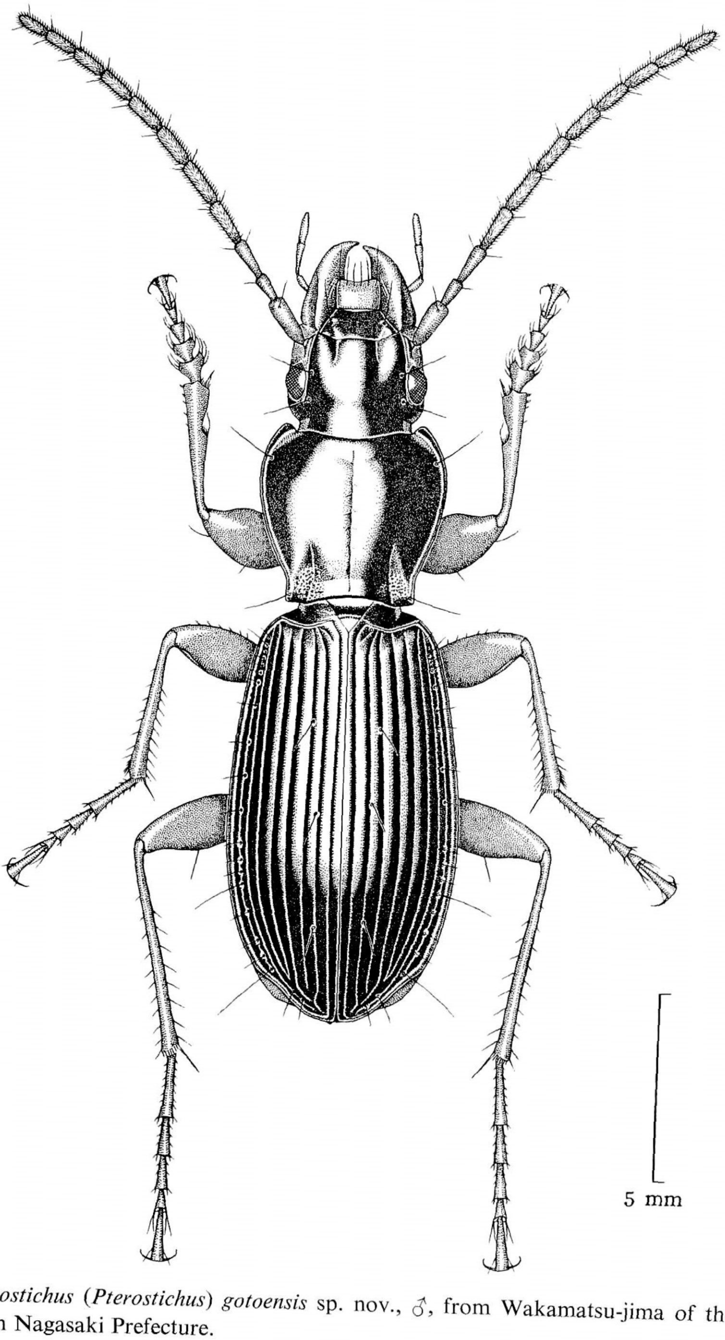

Fig. 1. *Pterostichus* (*Pterostichus*) *gotoensis* sp. nov., ♂, from Wakamatsu-jima of the Gotô Islands in Nagasaki Prefecture.

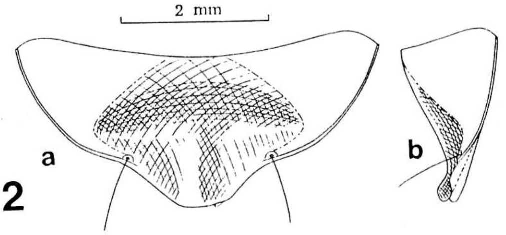

Fig. 2. Terminal sternite in the male of *Pterostichus* (*Pterostichus*) *gotoensis* sp. nov., from Wakamatsu-jima of the Gotô Islands in Nagasaki Prefecture; a, ventral view; b, left lateral view.

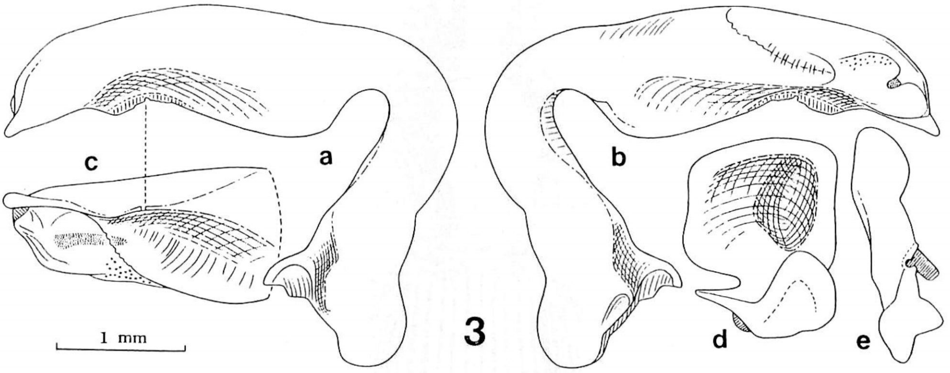

Fig. 3. Male genitalia of *Pterostichus* (*Pterostichus*) *gotoensis* sp. nov., from Wakamatsu-jima of the Gotô Islands in Nagasaki Prefecture; a–c, aedeagus; a, right lateral view; b, left lateral view; c, apical third in ventral view; d, left paramere; e, right paramere.

as *P. amanoi* NAKANE and illustrated it. Judging from the picture and IMASAKA's information, it is highly probable that the specimen in question is not *P. amanoi* but may be the female of *P. gotoensis*.

要　　約

笠原須磨生・松本俊信：九州の五島列島産ナガゴミムシ属（オサムシ科）の1新種．――長崎県五島列島の若松島から，ナガゴミムシ属の1新種，ゴトウナガゴミムシ *Pterostichus* (*Pterostichus*) *gotoensis* を記載した．本種はヒョウゴナガゴミムシ種群 *sphodriformis* group に属する．雄の腹板末端節の中央が深く凹み，後縁が顕著に幅広く突き出していて，種群のなかでも例外的に特異な形態的特徴をもつため，近縁種との識別はよういである．雌は未知であるが，今坂・江島 (1981) が，*P. amanoi* NAKANE として図示した個体は，その形態と今坂の私信から推察して，ゴトウナガゴミムシの雌である可能性が高い．いずれにせよ，本種の発見は，五島列島の動物相に新たな興味を加えるものである．

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Elytra, Tokyo, **18** (1): 43, May 15, 1990

Chlaenius junceus ANDREWES (Coleoptera, Carabidae) New to the Fauna of Taiwan

Sumao KASAHARA

Nishifuna 4–9–13, Funabashi City, Chiba, 273 Japan

Recently, I recorded a callistine carabid beetle, *Chlaenius junceus* ANDREWES, from Japan (KASAHARA & MATSUMOTO, 1989). Since then, I have had an opportunity to examine a male example of the same species through the courtesy of Mr. Norio OHTANI, to whom I wish to express my sincere thanks.

Chlaenius junceus was originally described from China. According to ANDREWES, four examples designated as syntypes may have come from Hong Kong and Shanghai. It has not been recorded from Taiwan until now.

Chlaenius junceus ANDREWES

ANDREWES, 1923, Annls. Mag. nat. Hist., (9), **11**: 336–337 [China]; 1930, Cat. Ind. Ins., (18): 95; 1941, Annls. Mag. nat. Hist., (11), **7**: 307. —— CSIKI, 1931, Coleopt. Cat., pars 115: 958. —— KASAHARA & MATSUMOTO, 1989, Coleopt. News, Tokyo, (87/88): 5–7.

Specimen examined. 1 ♂, Kenting, Taiwan, 25–V–1972, H. YOKOYAMA leg.

Though the Taiwanese individual (length 9.7 mm) is smaller than the Japanese one (length 12 mm), almost no difference can be observed between the two.

Elytra, Tokyo, **18** (1): 44, May 15, 1990

山梨県鳳凰山麓のナガゴミムシ類

笠原 須磨生

KASAHARA, S.: Some Pterostichine Carabids from the Foot of Mt. Hô'ô-zan in Yamanashi, Central Japan

山梨県の鳳凰山は，赤石山脈の前衛をなす鳳凰山塊の主峯である．鳳凰小屋の主人細田倖市氏は甲虫類に関心が深く，その採集品に基づくナガクチキムシ類（水野，1989），コメツキムシ類（岸井，1989）などの報告もあって，これまで知見のとぼしかったこの山地の甲虫相が明らかにされつつある．筆者は 1989 年 6 月に山麓の御座石鉱泉を訪ね，細田氏の案内を得て相当数のオサムシ科甲虫を採集したので，そのなかから広義のナガゴミムシ亜属に属するナガゴミムシ類 6 種を報告しておく．このうち 5 種までが赤石山系に特有の形質をそなえたもので，釜無川をへだてて奥秩父山地や八ケ岳に分布する類縁の種群とは明らかに異なる様相を示している．滞在中，採集探索に協力してくださった細田氏に謝意を表したい．

Pterostichus spiculifer ishidai TANAKA ハラトゲナガゴミムシ赤石亜種

1♀，上来沢（標高 1,060 m），14–VI–1989（以下同年）；6♂♂，4♀♀，ゴア沢（標高 1,360 m），14–VI.

Pterostichus uenoi STRANEO ウエノオオナガゴミムシ

3♂♂，3♀♀，御座石鉱泉南沢（標高 1,100 m），14–VI；2♂♂，1♀，上来沢，14–VI；20♂♂，19♀♀，ゴア沢，15–VI.

Pterostichus latistylis TANAKA タナカナガゴミムシ

1♂，御座石鉱泉南沢，13–VI；2♂♂，1♀，同，14–VI．上翅の第 3，5 間室に多数の孔点をもち，雄交尾器右側片の先端部は切断状．静岡県大井川上流の二軒小屋の個体群によく似ている．赤石山脈に固有の 1 型であろう．

Pterostichus brunneipennis akaishicus TANAKA ハネアカナガゴミムシ赤石亜種

2♂♂，燕頭山（標高 2,105 m），10–VI（細田倖市採集）；1♀，御座石鉱泉南沢，14–VI；2♂♂，ゴア沢，15–VI．燕頭山付近から上部の個体に比較すると山麓部のものは大型で，とくにゴア沢産は大きく，一見別種の観がある．しかし，翅端部，雄の腹板末端節と交尾器の形態的特徴は明らかに本亜種のものである．同様の大型個体群は山梨県身延山などにもみられる（未発表）．

Pterostichus asymmetricus BATES ミズギワナガゴミムシ

17♂♂，2♀♀，御座石鉱泉南沢，13–VI；6♂♂，2♀♀，同，14–VI；1♂，上来沢，14–VI；2♂♂，ゴア沢，15–VI．体が幅広く，肢が暗赤褐色の赤石山脈固有の型．渓畔の石下やガレ場の礫層中に多い．

Pterostichus masumotoi TANAKA, MORITA et SUGA マスモトナガゴミムシ

1♂，ゴア沢，15–VI．鳳凰山麓では，すでに近隣の青木鉱泉で記録されている．

Elytra, *Tokyo*, **18** (1): 45–53, May 15, 1990

Studies on the Subfamily Steninae (Coleoptera, Oxyporidae) from Japan

XIV. Subgenus *Hypostenus* of the Genus *Stenus* LATREILLE, Part 6[1]

Shun-Ichiro NAOMI[2]

Entomological Laboratory, Faculty of Agriculture,
Kyushu University, Fukuoka, 812 Japan

Abstract The *Stenus keman*, *micuba* and *jambar* groups of the subgenus *Hypostenus* are dealt with. Five new species, *S. keman*, *S. toshiharui*, *S. otohime*, *S. kaguyahime* and *S. jambar* are described and their male genitalia are figured.

9. Group of *S. keman*

This group is composed of two new species, *Stenus keman* and *S. toshiharui*, and is distributed in Honshu (Chûbu District) and Kyushu.

The diagnosis of the *keman* group is as follows: 1) head entirely black, 2) 6th sternum evenly convex, and 7th sternum convex or with a small flat area at posteromedian part in male; 3) median lobe of male genitalia broad even in apical half, its apical margin rounded with or without a minute median projection; parameres extending far beyond apex of median lobe and slender.

Stenus keman sp. nov.

(Fig. 1 B)

Male and female. Body length: 3.6–4.1 mm.

Head and abdomen black; pronotum and elytra dark red to dark reddish brown; labrum, antennae, maxillary palpi and legs red to dark reddish brown.

Head broader than elytra (1.12: 1), 1.65 times as broad as long, frontoclypeal area with regular and moderate punctures and fine pubescence, interocular area with a pair of depressions, the depressions longitudinal and shallow, median part between the depressions weakly convex; punctures almost regular, round and dense, interstices between punctures distinctly sculptured. Antennae reaching posterior 4/5 of pronotum, 8th segment a little broader than 7th, distinctly narrower than 9th, 9th to 11th forming a loose club, with relative lengths of segments from base to apex as 10: 10: 20: 12: 11: 8: 8: 5: 7: 8: 9.

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[1] Contribution from the Entomological Laboratory, Faculty of Agriculture, Kyushu University, Fukuoka (Ser. 3, No. 287).

[2] Present address: Natural History Museum and Institute, Chiba, 955–2 Aoba-chô, Chiba, 280 Japan.

Pronotum shorter than elytra (0.94: 1), a little longer than broad (1.05: 1), broadest at anterior 1/3, and moderately constricted at base, side margins more weakly rounded than those in the *amida* group; disk slightly uneven, with a median longitudinal depression, the depression 0.75 times to almost as long as pronotum; punctures very dense, rough and round, interstices between punctures distinctly sculptured.

Elytra broader than long (1.07: 1), strongly constricted at base, side margins much rounded, hind margins together forming a moderately deep and V-shaped emargination; disk slightly uneven, with punctures very dense and large. Hind wings reduced, 0.43 times as long as elytra.

Legs moderate in length, hind tarsi 0.66 times as long as hind tibiae.

Abdomen with punctures round, regular and moderate in size, interstices between punctures finely sculptured on 3rd tergum, punctures becoming gradually smaller and sparser posteriorly from 3rd to 8th terga.

Male. Seventh sternum with a small flat area at posteromedian part; 8th sternum with a moderate V-shaped emargination at posterior margin; 9th sternum with a moderately deep and U-shaped emargination at posterior margin, apicolateral projections acutely pointed. Genitalia (Fig. 1 B) with median lobe broad, gently rounded at apical margin; parameres extending far beyond apex of median lobe, each slender, pointed at apex, with sparse hairs on internal surface behind the middle.

Female. Eighth sternum almost entire in posterior margin.

Holotype, male (Type No. 2690, Kyushu Univ.), Nishihotakaguchi, Gifu Pref., 11–VI–1980, S. NAOMI leg. Paratypes, 9 exs., same data as for holotype; 3 exs., Shinhotaka-Onsen, Gifu Pref., 10～12–VI–1980, S. NAOMI leg.

Distribution. Japan (Honshu: Chûbu District).

Remarks. This new species is allied to *S. toshiharui* sp. nov., but the interstices between punctures on the interocular area are distinctly sculptured and the median lobe of the male genitalia is gently rounded at the apical margin.

Stenus toshiharui sp. nov.

(Fig. 1 C)

Male and female. Body length: 2.9–3.3 mm.

Head black; pronotum, elytra and abdomen reddish brown to dark brown, 7th to 9th abdominal segments dark brown to black; labrum, antennae, maxillary palpi and legs reddish brown to brown.

Head broader than elytra (1.16: 1), 1.69 times as broad as long, frontoclypeal area with sparse punctures and pubescence, interocular area with a pair of depressions, the depressions longitudinal, broad and shallow, median part between the depressions gently convex; punctures moderate in size, round, almost regular, and a little smaller on the middle than near inner margins of eyes, interstices between punctures indistinctly sculptured. Antennae reaching posterior 3/4 of pronotum, lst and 2nd segments robust, distinctly broader than 3rd, 8th to 9th each elongate oval, with relative lengths of segments from base to apex as 10: 10: 16: 9: 8: 6: 5: 4: 6: 7: 8.

Pronotum about as long as elytra, as long as broad, broadest at anterior 2/5, and constricted at base, side margins much rounded in anterior 3/4; disk slightly uneven, with a median longitudinal depression, the depression deeper and/or broader than that in *S. keman* sp. nov., 0.75 times to almost as long as pronotum; punctures very dense, round and almost regular, interstices between punctures indistinctly sculptured.

Elytra broader than long (1.16: 1), moderately constricted at base, side margins rounded, hind margins together forming a shallow V-shaped emargination; disk slightly uneven, with punctures similar to those on pronotum. Hind wings completely atrophied.

Legs moderate in length, hind tarsi 0.68 times as long as hind tibiae.

Abdomen slender, with punctures round and a little larger at base than near posterior margin on 3rd tergum, punctures becoming gradually smaller posteriorly from 3rd to 8th terga.

Male. Eighth sternum with a shallow and wide emargination at posterior margin; 9th sternum with an arcuate emargination at posterior margin, apicolateral projections acutely pointed. Genitalia (Fig. 1 C) with median lobe elongate oval, gently rounded with a minute median projection at apical margin; parameres extending far beyond apex of median lobe, slender, with sparse hairs on apico-internal parts.

Female. Eighth sternum entire at posterior margin.

Holotype, male (Type No. 2691, Kyushu Univ.), Mt. Tsubaki, Saga Pref., 2–X–1977, H. OHISHI leg. Paratypes, 5 exs., Amagi Pass, Izu Peninsula, Shizuoka Pref., 23–VII–1982, S. NAOMI leg.; 30 exs., same data as for holotype; 3 exs., Ikenohara Marsh, Saga Pref., 9–IX–1976, H. OHISHI leg.; 1 ex., Mt. Mifune, Saga Pref., 15–III–1980, S. NOMURA leg.; 1 ex., same locality, 11–III–1981, S. NOMURA leg.; 1 ex., same locality, 27–V–1984, S. NOMURA leg.

Distribution. Japan (Honshu: Chûbu District; Kyushu).

Remarks. This new species is allied to *S. keman* sp. nov., but the interstices between the punctures on the interocular area are indistinctly sculptured and the median lobe of the male genitalia is gently rounded with a minute median projection at the apical margin.

This species is named in honor of Prof. T. YOSHIDA of Okayama University.

10. Group of *S. micuba*

This group is composed of 3 species, *Stenus micuba* HROMÁDKA, *S. otohime* sp. nov. and *S. kaguyahime* sp. nov. and is distributed in Honshu (Chûgoku District) and Kyushu in Japan and also in China (Chinkiang).

The diagnosis of the *micuba* group is as follows: 1) head entirely black; 2) 6th and 7th sterna each evenly convex transversely; and 3) median lobe of male genitalia narrowed apically in various degrees, obtusely or acutely pointed at apex; parameres extending far beyond apex of median lobe, slender, with short hairs on apico-internal parts.

Stenus micuba HROMÁDKA

(Fig. 1 F)

Stenus micuba HROMÁDKA, 1982, Fragm. coleopt., (33/34): 134.

Specimens examined. 1 ex., Nikyukyô, Hiroshima Pref., 7–VIII–1986, I. OKAMOTO leg.; 1 ex., same locality, 5–IV–1981, I. OKAMOTO leg.; 1 ex., Kobaru-chô, Hiroshima Pref., 18–IX–1986, I. OKAMOTO leg.; 2 exs., Haigamine, Hiroshima Pref., 12–IV–1986, I. OKAMOTO leg.; 1 ex., same locality, 24–V–1986, I. OKAMOTO leg.; 1 ex., same locality, 22–VI–1986, I. OKAMOTO leg.; 1 ex., same locality, 11–IV–1987, I. OKAMOTO leg.; 1 ex., Houei-chô, Hiroshima Pref., 8–VI–1986, I. OKAMOTO leg.; 3 exs., same locality, 4–VII–1986, I. OKAMOTO leg.; 2 exs., Mt. Tara, Nagasaki Pref., 28–II–1978, S. IMASAKA leg.; 1 ex., same locality, 31–V–1978, S. IMASAKA leg.; 1 ex., same locality, 4–VI–1980, S. IMASAKA leg.; 2 exs., same locality, 13–IV–1982, S. IMASAKA leg.; 3 exs., Nomozaki, Nagasaki Pref., 18–XII–1977, S. IMASAKA leg.; 2 exs., same locality, 6–III–1978, S. IMASAKA leg.; 1 ex., Ohmura, Nagasaki Pref., 26–XII–1981, S. IMASAKA leg.; 1 ex., Iwaseto Valley, Nagasaki Pref., 22–II–1978, S. IMASAKA leg.; 1 ex., Mt. Unzen, Nagasaki Pref., 3–VII–1977, H. OHISHI leg.; 1 ex., same locality, 3–IV–1979, S. IMASAKA leg.; 2 exs., same locality, 27–IX–1977, S. IMASAKA leg.; 1 ex., same locality, 17–VIII–1983, S. IMASAKA leg.; 3 exs., Todoroki Valley, Nagasaki Pref., 11–II–1985, S. NOMURA leg.; 8 exs., Nakadôri Is., Gotô Isls., Nagasaki Pref., 16–VIII–1977, H. OHISHI leg.; 1 ex., Tsushima Is., Nagasaki Pref., 27–V–1970, H. MAKIHARA leg.; 3 exs., Kakihara, Saga Pref., 10–XI–1976, H. OHISHI leg.

Distribution. Japan (Honshu: Chûgoku District, Kyushu, Gotô Isls., Tsushima Is.); China.

Stenus otohime sp. nov.

(Fig. 1 E)

Male and female. Body length: 3.3–3.4 mm.

Body entirely black and moderately shiny; labrum dark reddish brown to black, with anterior margin reddish yellow; antennae, maxillary palpi and legs pale yellow to yellowish red.

Head broader than elytra (1.15: 1), 1.77 times as broad as long, frontoclypeal area sparsely punctate, with interstices between punctures finely sculptured, interocular area with a pair of depressions, the depressions longitudinal, shallow and broad, median part between the depressions elongate oval and weakly convex; punctures moderate in size, round, and a little smaller on the middle than near inner margins of eyes, interstices between punctures indistinctly sculptured. Eyes more convex

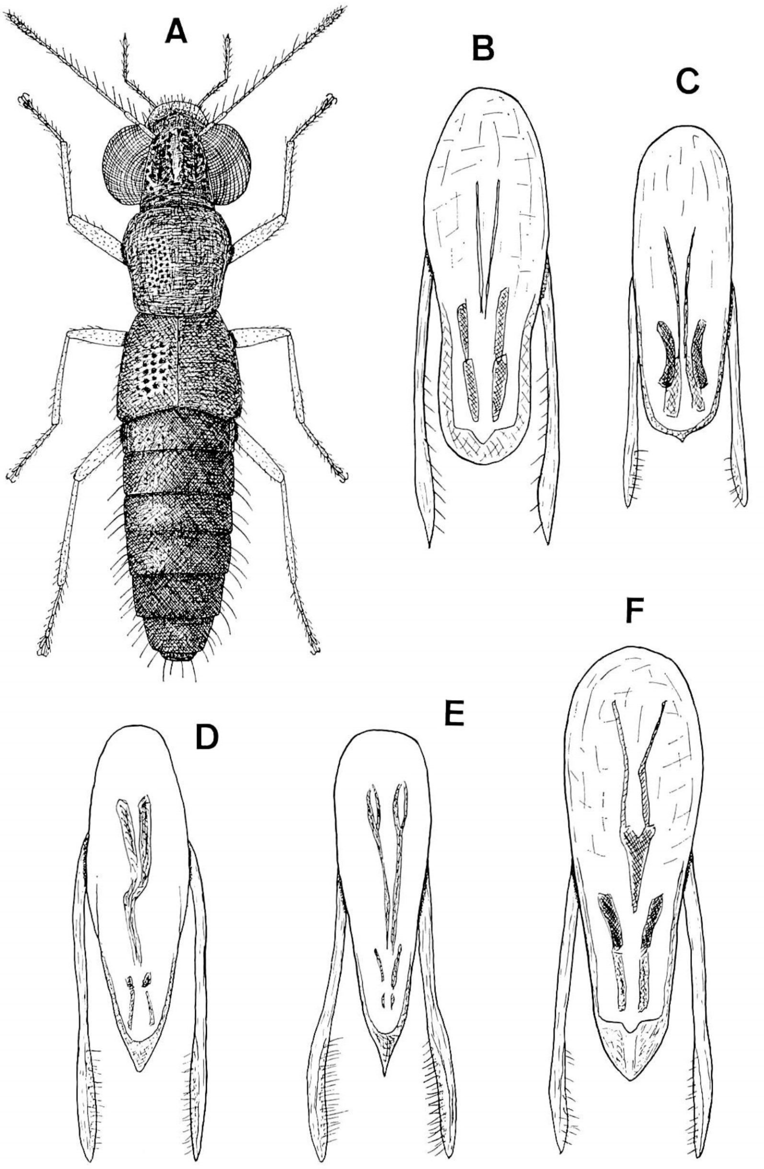

Fig. 1. —— A, *Stenus jambar* sp. nov.; B, *S. keman* sp. nov.; C, *S. toshiharui* sp. nov.; D, *S. kaguyahime* sp. nov.; E, *S. otohime* sp. nov.; F, *S. micuba* HROMÁDKA. A, Habitus; B–F, male genitalia in dorsal view.

than those in *S. micuba* HROMÁDKA. Antennae reaching posterior 3/4 of pronotum, 3rd to 8th segments subequal in length to one another, 9th to 11th forming a loose club, with relative lengths of segments from base to apex as 10: 9: 18: 10: 10: 7: 7:

4: 6: 7: 9.

Pronotum about as long as elytra, as long as broad, broadest at anterior 1/5, well convex above, and distinctly constricted at base, side margins much rounded in anterior 3/4; disk almost smooth or slightly uneven, with a median longitudinal depression, the depression about 0.75 times as long as pronotum; punctures very dense, round and almost regular, interstices between punctures distinctly sculptured.

Elytra broader than long (1.21: 1), distinctly constricted at base, side margins gently rounded, hind margins together forming a wide and shallow emargination; disk slightly uneven, with punctures very dense, round and a little larger than those on pronotum. Hind wings reduced, 0.59 times as long as elytra.

Legs elongate, hind tarsi 0.73 times as long as hind tibiae.

Abdomen robust, with punctures round, rather rough, a little larger at base than near posterior margin, and interstices between punctures indistinctly sculptured on 3rd tergum, punctures becoming gradually smaller and sparser posteriorly from 3rd to 8th terga.

Male. Eighth sternum with a very shallow and wide emargination at posterior margin; 9th sternum with an arcuate emargination at posterior margin, apicolateral projections acutely pointed. Genitalia (Fig. 1 E) with median lobe elongate, gradually narrowed apically, and acutely pointed at apex; parameres extending far beyond apex of median lobe, slightly swollen in apical 2/5, with dense hairs on apico-internal parts.

Female. Eighth sternum entire at posterior margin.

Holotype, male (Type No. 2692, Kyushu Univ.), Mt. Seira, Imari City, Saga Pref., 28–V–1984, S. NOMURA leg. Paratypes, 3 exs., same data as for holotype; 1 ex., Imari City, Saga Pref., 29–VII–1976, H. OHISHI leg.

Distribution. Japan (Kyushu).

Remarks. This new species is closely allied to *S. kaguyahime* sp. nov., but the eyes are more convex and the punctures on the interocular area are sparser, and the median lobe of the male genitalia is more acutely pointed at the apex.

Stenus kaguyahime sp. nov.

(Fig. 1 D)

Male and female. Body length: 3.5–4.0 mm.

Body entirely black, moderately to weakly shiny; labrum dark red to black, with anterior margin reddish brown; antennae, maxillary palpi and legs reddish brown to dark brown.

Head broader than elytra (1.09: 1), 1.71 times as broad as long, frontoclypeal area sparsely punctate, with minute and distinct sculpture, interocular area with a pair of depressions, the depressions longitudinal, very shallow and convergent anteriorly, median part between the depressions weakly convex; punctures almost regular, round and a little smaller on the middle than near inner margins of eyes, interstices between punctures indistinctly sculptured. Antennae reaching posterior 3/4 of pronotum, 8th segment the smallest, 9th to 10th each elongate oval, with relative lengths of segments from base to apex as 10: 10: 21: 10: 10: 8: 8: 5: 6: 8: 10.

Pronotum a little shorter than elytra (0.93: 1), about as long as broad, broadest near the middle, moderately constricted at base, side margins rounded in anterior 2/3; disk slightly uneven, with a median longitudinal depression, the depression indistinct, 1/3 to 2/3 times as long as pronotum; punctures very dense, moderate in size, round and almost regular, interstices between punctures indistinctly sculptured.

Elytra broader than long (1.17: 1), weakly constricted at base, side margins gently rounded, hind margins together forming a wide and arcuate emargination; disk almost even, with punctures round to elliptical, very dense, large and distinct. Hind wings atrophied into small pieces, 0.22 times as long as elytra.

Legs moderate in length, hind tarsi 0.67 times as long as hind tibiae.

Abdomen broad and robust; punctures round, uniform, moderate in density, and interstices between punctures indistinctly sculptured on 3rd tergum, punctures becoming gradually smaller and sparser posteriorly from 3rd to 8th terga; pubescence sparse, short and decumbent.

Male. Eighth sternum with a shallow emargination at posterior margin; 9th sternum with an arcuate emargination at posterior margin, apicolateral projections acutely pointed. Genitalia (Fig. 1 D) with median lobe broadest near the middle, and pointed at apex; parameres extending far beyond apex of median lobe, slender and almost straight, with short hairs on apico-internal parts.

Female. Eighth sternum almost entire at posterior margin.

Holotype, male (Type No. 2693, Kyushu Univ.), Mt. Seburi, Saga Pref., 18–IX–1977, H. OHISHI leg. Paratypes, 14 exs., same data as for holotype.

Distribution. Japan (Kyushu).

Remarks. This new species is closely allied to *Stenus otohime* sp. nov., but the eyes are less strongly convex, and the punctures on the interocular area are denser. In addition, the median lobe of the male genitalia is broader and less acutely pointed at the apex.

11. Group of *S. jambar*

This group is composed only of *Stenus jambar* sp. nov., which is restricted at present to Okinawa-hontô Is., the Ryukyus.

Although the male of *S. jambar* is unknown to me, this species is immediately distinguished from the other species of the *S. rufescens* complex by the following characters: 1) head entirely black, with very large and convex eyes; 2) antennae very slender, extending a little beyond hind margin of pronotum; and 3) abdomen sparsely punctate and very shiny, with long and suberect hairs. This species is, without doubt, distinct and rather different from the other 10 groups in the *rufescens* complex, judging from the 3rd character mentioned above.

Stenus jambar sp. nov.

(Fig. 1 A)

Female. Body length: 3.5 mm.

Head and abdomen black and very shiny; pronotum and elytra dark reddish brown and shiny; labrum reddish brown in basal half, pale yellowish red in broad area along anterior margin; antennae, maxillary palpi and legs pale yellow to yellow.

Head broader than elytra (1.21: 1), 1.44 times as broad as long, frontoclypeal area sparsely punctate and pubescent, interocular area distinctly concave, with a pair of depressions, the depressions longitudinal and gradually convergent anteriorly, median part between the depressions weakly convex, narrow, smooth along the median line, and distinctly lower in level than eyes; punctures large and rough, each with a short hair, interstices between punctures very shiny and smooth. Eyes very large and strongly convex. Antennae very slender, extending a little beyond hind margin of pronotum, 9th to 11th segments forming a loose club, with relative lengths of segments from base to apex as 11: 10: 24: 13: 12: 10: 9: 6: 7: 8: 12.

Pronotum about as long as elytra, as long as broad, broadest at anterior 1/3, and distinctly constricted at base, side margins gently rounded in anterior 2/3; disk almost even, with a median longitudinal depression in basal half; punctures dense, uniform and round, interstices between punctures smooth and shiny.

Elytra broader than long (1.13: 1), distinctly constricted at base, side margins gently divergent posteriorly, hind margins together forming a wide and shallow emargination; disk almost even, with punctures very large, rough and indistinct. Hind wings reduced.

Legs elongate, hind tarsi 0.65 times as long as hind tibiae.

Abdomen large and stout, paratergites very narrow in 3rd segment; punctures sparse and small on 3rd to 8th terga, each with a long and suberect hair, interstices between punctures smooth and shiny; 8th sternum entire at posterior margin.

Holotype, female (Type No. 2694, Kyushu Univ.), Ie-Rindô, Kunigami, Okinawa-hontô Is., Okinawa Pref., 14–III–1985, S. NOMURA leg.

Distribution. Japan (Okinawa-hontô Is.).

Remarks. This new species is easily separable from the other hypostenine species by the diagnostic characters of the *jambar* group.

Acknowledgements

I wish to express my sincere gratitude to Prof. Y. HIRASHIMA and Assoc. Prof. K. MORIMOTO of the Entomological Laboratory, Kyushu University, for their constant guidance. I am also indebted to Messrs. H. OHISHI (Kyoto City), I. OKAMOTO (Kure City), S. IMASAKA (Shimabara City), S. NOMURA (Kyushu University) and H. MAKIHARA (Forestry and Forest Products Research Institute) for their kind offer of valuable stenine specimens used in this paper.

要　約

直海俊一郎：日本産メダカハネカクシ亜科の研究. XIV. メダカハネカクシ属 *Hypostenus* 亜属, 6. —— 本論文で *S. rufescens* 複合群のうち *keman* 種群, *micuba* 種群および *jambar* 種群を論じた.

keman 種群は *Stenus keman* および *S. toshiharui* の2新種から成り, 本州（中部地方）と九州に分布する. 本種群は, 雄の腹部第7腹板の後方中央部が普通あるいは平滑で, 雄交尾器中央片は幅広く, 側片は長いという形質などで特徴づけられる.

mikuba 種群は, *Stenus micuba* Hromádka, *S. otohime* sp. nov. および *S. kaguyahime* sp. nov. から成り, 本州（中国地方）, 九州および中国に分布する. 本種群は, 雄の腹部第6, 7腹板上に二次性徴がなく, 雄交尾器中央片は先端に向かい細くなり, 先端部は尖り, 側片は非常に長いという形質などで特徴づけられる.

jambar 種群は *Stenus jambar* sp. nov. 1種だけから成り, 沖縄本島に分布している. 現在まで本種の雄は知られていないが, 本種は *S. rufescens* 複合群のすべての種から, 頭部全体が黒く, 触角がひじょうに細く, 腹部は疎に点刻され光沢があり, 直立毛をそなえるという形質などで容易に区別できる.

Reference

Hromádka, L., 1982. Weitere neue *Stenus*-Arten von Japan (Coleoptera, Staphylinidae). *Fragm. coleopt.*, (33/34): 131–138.

Errata

In my paper on the comparative morphology of the Staphylinoidea, IX (Naomi, 1989, Jpn. J. Ent., **57**: 519),

on line 11, for *Priochirus*, 1p: 0, st: 1–2, 3–7(0), 8 read *Priochirus*, 1p: 0, st: 1–8;
on lines 11–12, for *Osorius*, 1p: 0, st: 1–8 or 1, 2–7(0), 8 read *Osorius*, 1p: 0, st: 1–8;
on line 12, for *Megarthrus*, 1p: 1, st: 1–8 read *Megarthrus*, 1p: 1, st: 1–3, 4–6(0), 7–8.

During my visit to the Field Museum of Natural History, Chicago, in November, 1989, these errors concerning the formula of spiracles were pointed out by Dr. A. F. Newton, to whom I am much obliged.

Elytra, *Tokyo*, **18** (1): 54, May 15, 1990

Description of the Male Genitalia of *Anisolinus taoi* NAOMI (Coleoptera, Staphylinoidea)

Shun-Ichiro NAOMI

Natural History Museum and Institute, Chiba,
Aoba-cho 955–2, Chiba, 280 Japan

Anisolinus taoi was described by NAOMI (1981) on the basis of two females from Daibosatsu, Yamanashi Prefecture, central Honshu, Japan. After that, I fortunately collected additional specimens (1 male and 2 females) from the type locality on 15–18 July 1982. I will describe here the male genitalia of the species for the first time.

Description. Median lobe stout and moderately sclerotized, bulbous at base, gradually narrowed apically, slightly asymmetrical in apical half, pointed at apex in ventral view, curved ventrally at apical part in lateral view; parameres fused into a relatively broad lobe, the lobe subparallel-sided except for the base, with 4 pairs of straight hairs at apical margin which is moderately emarginate as shown in Fig. 1C, ventral surface of the lobe roundly and shallowly concave, scattered with black and small tubercles at apex.

Remarks. The male genitalia of this species resemble those of *Anisolinus tsurugiensis* K. SAWADA, 1961, but the parameral lobe is broader with its apex emarginate.

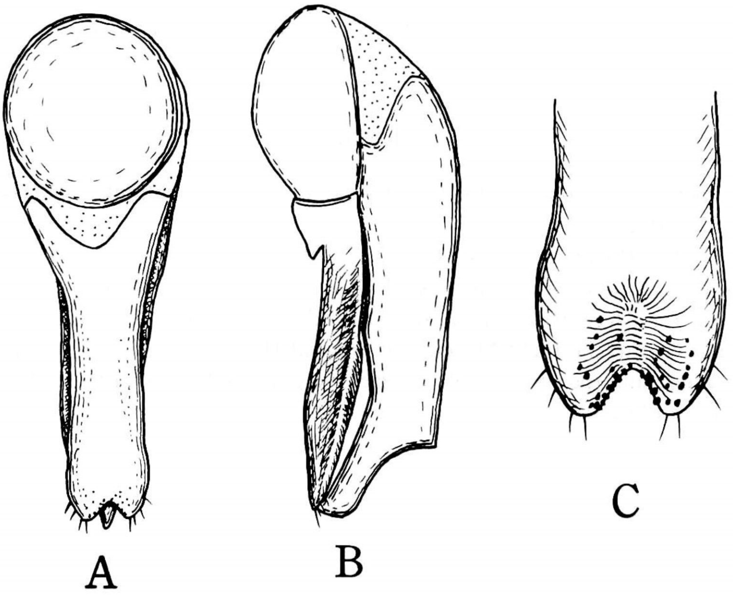

Fig. 1. Male genitalia of *Anisolinus taoi* NAOMI; A, dorsal view; B, lateral view; C, apicoventral part of paramere.

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NAOMI, S., 1981. On the genus *Anisolinus* SHARP (Coleoptera, Staphylinidae), with description of a new species. *Kontyû*, *Tokyo*, **49**: 109–115.

SAWADA, K., 1961. Two new species of the genus *Anisolinus* SHARP from Japan (Col., Staph.). *Ent. Rev. Japan*, **13**: 4–6.

Elytra, Tokyo, **18** (1): 55–58, May 15, 1990

Zwei neue japanische *Stenus*-Arten der Untergattung *Parastenus* HEYDEN, 1905 (Coleoptera, Staphylinidae)

22. Beitrag zur Kenntnis der Steninen

Lubomír HROMÁDKA

Anny Letenské 7, CS–120 00 Praha 2, Tschechoslowakei

Abstract Two new species, *Stenus* (*Parastenus*) *haniwa* and *Stenus* (*Parastenus*) *tengu*, are described from Japan; the former from the Shiga Heights and the latter from Bijodaira, both in central Honshu.

Ich danke Herrn Dr. Aleš SMETANA (Ottawa) für die freundliche Überlassung der neuen Arten von seinen Studienreisen nach Japan im Jahre 1980 zur Bearbeitung.

1. *Stenus* (*Parastenus*) *haniwa* sp. n.

(Abb. 1–3)

Schwarz mit schwachem Bronzenschimmer, mäßig glänzend, die drei ersten Fühlerglieder gelbbraun, ihr viertes bis sechstes Glied braungelb, die folgenden Glieder braunschwarz, die Taster gelbbraun, Beine braungelb, nur Knie wenig dunkler. Die Oberlippe schwarzbraun, am Rande etwas heller. Vorderkörper grob und dicht, Hinterleib wenig fein und wenig dicht punktiert, deutlich kurz beborstet. Clypeus und Oberlippe weitläufig beborstet.

Der Kopf deutlich breiter als die Flügeldecken (54: 47), seine breite Stirn (mittlere Augenabstand: 28) mit zwei tiefen Längsfurchen, der rundlich erhobene Mittelteil gut so breit wie die ebenfalls (leicht) gewölbte Seitenstücke, schwach überragt Niveau des Augeninnenrandes. Die Punktierung mäßig grob und dicht, der mittlere Punktdurchmesser etwa dem größten Querschnitt des dritten Fühlergliedes entsprechend, die Punktzwischenräume deutlich kleiner als Punktradien, die hinteren zwei Drittel des Mittelteiles geglättet und hier die Punktzwischenräume so groß wie die Punktdurchmesser.

Die schlanken Fühler züruckgelegt, den Hinterrand des Halsschildes fast erreichend. Länge der Glieder: I: 6; II: 5; III: 11; IV: 6; V: 6; VI: 5; VII: 4; VIII: 3; IX: 4; X: 4; XI: 6.

Der Halsschild nur wenig länger als breit (40: 42), etwa in der Mitte am breitesten, nach vorn konvex, nach hinten deutlich konkav verengt. Eine lange Mittelfurche, die in der Mitte etwas breiter ist, fast von vorn bis nach hinten gezogen. Die Punktierung ist ziemlich grob und dicht, die Punkte etwas größer als größter Querschnitt des dritten Fühlergliedes, die Punktzwischenräume kleiner als die Punktdurchmesser, welche in der Mitte etwas größer sein können.

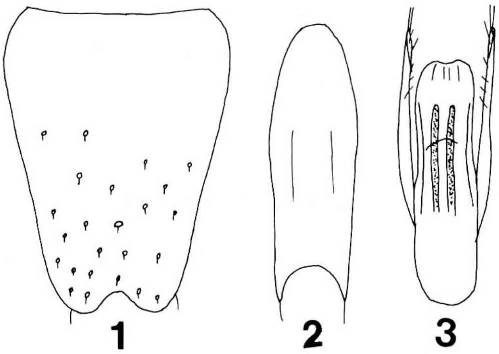

Abb. 1–3. *Stenus* (*Parastenus*) *haniwa* sp. n.; 8. Sternit (1), 9. Sternit (2), Dorsalansicht des Aedoeagus (3).

Die Flügeldecken etwas schmäler als der Kopf (47: 54), kaum länger als breit (48: 47), ihre Seiten hinter den ziemlich abgerundeten Schultern etwas rundlich (also nicht ganz gerade) erweitert, die breiteste Punkte befindlich im hinteren Viertel, danach die Flügeldecken mäßig eingezogen, ihr Hinterrand mäßig tief ausgerandet (Nahtlänge: 36). Die Punktierung deutlich gröber und dichter als jene des Halsschildes, der mittlere Punktdurchmesser etwa groß wie größter Querschnitt des siebenten Fühlergliedes, die Punktzwischenräume sehr klein.

Der Hinterleib breit und gewölbt, nach hinten sehr schwach verschmälert und sehr fein gerandet. Die Punktierung des dritten Tergits grob, vorn so grob als jene des Kopfes, nach hinten dann feiner und dichter als die der vorhergehenden, die Punktierung des fünften Tergits fein. Der mittlere Punktdurchmesser so groß wie eine Augenfacette, die Punktierung des sechsten und des siebenten Tergits feiner und zerstreuter als jene der vorhergehenden Tergite.

An den schlanken Beinen, die deutlich gelappten Hintertarsen etwa drei Viertel der Schienenlänge. Länge der Glieder: I: 14; II: 5; III: 3; IV: 6; V: 8; das vierten Glied schmal und lang gelappt.

Die ganze Oberseite genetzt.

Beim Männchen Bau des achten Sterniten wie in Abb. 1, des neunten wie in Abb. 2, Aedoeagus wie in Abb. 3 gebaut.

Die Weibchen dieser Art sind bis jetzt unbekannt.

Länge: 3,6 mm.

Stenus haniwa sp. n. ist von den kleinen japanischen *Parastenus*-Arten folgendermaßen verschieden: von *Stenus cephalotes* SHARP, 1889, durch dunklere Fühler, längere Flügeldecken und dichtere Punktierung des Hinterleibes, von *Stenus biwa* HROMÁDKA, 1979, durch dunklere Färbung des ganzen Körpers, schmälere und dichtere punktierte Flügeldecken, von allen sonstigen Arten durch die Form des Aedoeagus.

Holotypus ♂: Japan, Nagano Pr., Shiga, 23–VII–1980, 1.500 m, A. Z. SMETANA. Coll. Biosystematics Research Center, Ottawa.

Paratypus ♂: dieselbe Angaben, in meiner Sammlung.

2. ***Stenus* (*Parastenus*) *tengu*** sp. n.

(Abb. 4–6)

Schwarz, stark glänzend, grob und unterschiedlich dicht punktiert, Hinterleib deutlich behaart. Fühler gelblich, Mittelglieder schon etwas dunkler, Keule dunkelbraun, Taster einfarbig gelbbraun, Beine gelbbraun, Knie etwas dunkler. Oberlippe weitläufig beborstet.

Der Kopf deutlich breiter als die Flügeldecken (58: 48), seine wenig breite Stirn (mittlere Augenabstand: 30) mit zwei deutlichen Längsfurchen, ihr Mittelteil so groß wie die Seitenstücke, deutlich unten vom Augeninnenrandniveau gelegt. Die Punktierung mäßig grob und dicht, der mittlere Punktdurchmesser erreicht den mittleren Querschnitt des sechsten Fühlergliedes, die Punktzwischenräume seitlich und in den Stirnfurchen meist kleiner, höchstens so groß wie die Punktdurchmesser, auf dem Mittelteil aber etwas größer als die Punkte, weswegen Kopf stark glänzend.

Die schlanken Fühler zurückgelegt, den Hinterrand des Halsschildes gut erreicht. Länge der Glieder: I: 6; II: 6; III: 10; IV: 8; V: 7; VI: 6; VII: 5; VIII: 4; IX: 4; X: 5; XI: 6.

Der Halsschild kaum länger als breit (44: 43), in der Mitte am breitesten, nach vorn gerade, nach hinten deutlich konkav verengt. In der Mitte eine vorn und hinten abgekürzte, breite und tiefe Längsfurche vorhanden. Die Punktierung gröber und dichter als jene des Kopfs. Der Punktdurchmesser entspricht dem größten Durchmesser des drittes Fühlergliedes, die Punktzwischenräume minimal.

Die Flügeldecken deutlich schmäler als der Kopf (48: 58), breiter als lang (48: 44), ihre Schultern stark abgeschrägt, die Seiten nach hinten deutlich erweitert, im hinteren Sechstel eingezogen, ihr Hinterrand mäßig bogenförmig ausgeschnitten (Nahtlänge: 36). Die Punktierung deutlich gröber als jene des Halsschildes, der mittlere Punktdurchmesser den größten Querschnitt des achten Fühlergliedes gut erreicht, die Punktzwischenräume minimal.

Der ziemlich gewölbte Hinterleib sehr fein gerandet, nach hinten nur schwach erweitert. Die Punktierung des dritten Tergits vorn reichlich, so grob wie jene des Halsschildes, die Punktzwischenräume sehr klein, hinten die Punktierung dem basalen Querschnitt des dritten Fühlergliedes entsprechend. Die Punktierung des vierten und des fünften Tergits feiner und zerstreuter als die vorhergehenden. Sechstes und siebentes Tergite fein und zerstreut punktiert, der mittlere Punktdurchmesser wenig größer als eine Augenfacette, die Punktzwischenräume zweimal größer als die Punkte.

Die Beine lang, die Hintertarsen um ein Viertel kürzer als die Schienen. Länge der Glieder: I: 13; II: 6; III: 4; IV: 6; V: 9; das vierte Glied lang und schmal, zweilappig.

Die ganze Oberseite ohne Mikroskulptur.

Beim Männchen die Schenkel deutlich etwas gekeult. Das achte Sternit wie in Abb. 4, das neunte Sternit wie in Abb. 5, Aedoeagus wie in Abb. 6.

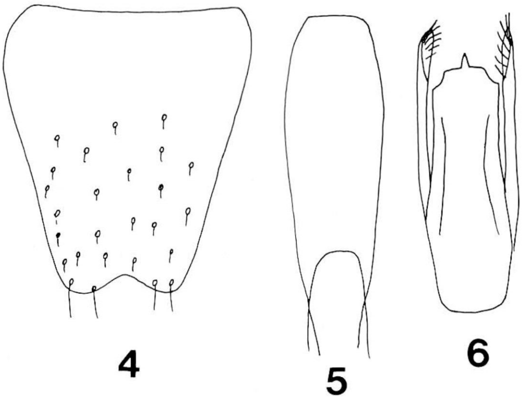

Abb. 4–6. *Stenus* (*Parastenus*) *tengu* sp. n.; 8. Sternit (4), 9. Sternit (5), Dorsalansicht des Aedoeagus (6).

Die Weibchen sind noch unbekannt.

Länge 3,5 mm.

Stenus tengu sp. n. unterscheidet sich von allen kleinen japanischen *Parastenus*-Arten wie folgt: von *Stenus biwa* HROMÁDKA, 1979, durch dunklere Färbung des ganzen Körpers und feinere Punktierung des Halsschildes, von *Stenus cephalotes* SHARP, 1889, durch gröbere und dichtere Punktierung des Halsschildes und Flügeldecken, von *Stenus koinobori* HROMÁDKA, 1979, durch dunklere Färbung ganzes Körpers und schmälere Flügeldecken, von allen Arten durch andere Geschlechtsmerkmale.

Holotypus ♂: Japan, Toyama Pr., Bijodaira, 1.000 m, 28–VII–1980, A. Z. SMETANA. Coll. Biosystematics Research Center, Ottawa.

要約

Lubomír HROMÁDKA: *Parastenus* 亜属に属する日本産メダカハネカクシ属の2新種. —— 中部地方の山地からメダカハネカクシ属の2新種を記載した. いずれも *Parastenus* 亜属のもので, 既知種とは色彩や点刻の状態の相違, 雄交尾器の形状などによって区別できる. 新名として, *Stenus* (*Parastenus*) *haniwa* および *S.* (*P.*) *tengu* を与えた.

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NAOMI, S.-I., 1988 a. Studies on the subfamily Steninae (Coleoptera, Oxyporidae) from Japan. VIII. Subgenus *Parastenus* of the genus *Stenus* LATREILLE, Part 3. *Elytra, Tokyo*, **16**: 65–71.

——— 1988 b. Ditto. IX. Subgenus *Hypostenus* of the genus *Stenus* LATREILLE, Part 1. *Ibid.*, **16**: 73–84.

PUTHZ, V., 1968. On some East Palearctic Steni, particularly from Japan. 52. Contribution to knowledge of Steninae. *Ent. Rev. Japan, Osaka*, **20**: 41–51.

Elytra, Tokyo, **18** (1): 59–72, May 15, 1990

A Revision of the Japanese Species of the Genus *Velleius* (Coleoptera, Staphylinidae)

Yasuaki WATANABE

Laboratory of Entomology, Tokyo University of Agriculture, Tokyo, 156 Japan

Abstract The Japanese species of the staphylinid genus *Velleius* are revised. All the known species, including two new species, are either described or redescribed, and a key to them is given. One of the new species, *V. japonicus*, is found in Honshu, and the other, *V. amamiensis*, on the Island of Amami-Ohshima.

Recently, the author had an opportunity to examine an interesting species of *Velleius* obtained on the Island of Amami-Ohshima in the Ryukyus. At this opportunity, the author intended to take up a revisional study of the Japanese members of the genus. As the result, the author found two new species, one of which was collected on the Island of Amami-Ohshima and the other in Honshu. Thus, the genus *Velleius* contains six Japanese species, all of which will be either described or redescribed in the present paper.

Before going further, the author wishes to express his hearty thanks to Dr. Shun-Ichi UÉNO of the National Science Museum (Nat. Hist.), Tokyo, and Professor Masataka SATÔ of Nagoya Women's University, Nagoya, for their kind advice on the present study, and to Professor Katsura MORIMOTO of Kyushu University, Fukuoka, for his kindness in giving the author the opportunity to examine the type specimen of *Velleius elongatus*. Deep gratitude is also due to Messrs. K. BABA, Y. FURIHATA, N. GOKAN, H. HATTORI, H. HAYAKAWA, H. KOIKE, N. MINAGAWA, A. MIYAMOTO, T. NAKAJIMA, M. NISHIMURA, M. OKABE, K. SASAKI, M. SAWADA, R. TERAKOSHI, M. WATANABE and M. YASUKAWA for their kindness in providing the author with the specimens used in this study.

Genus *Velleius* MANNERHEIM

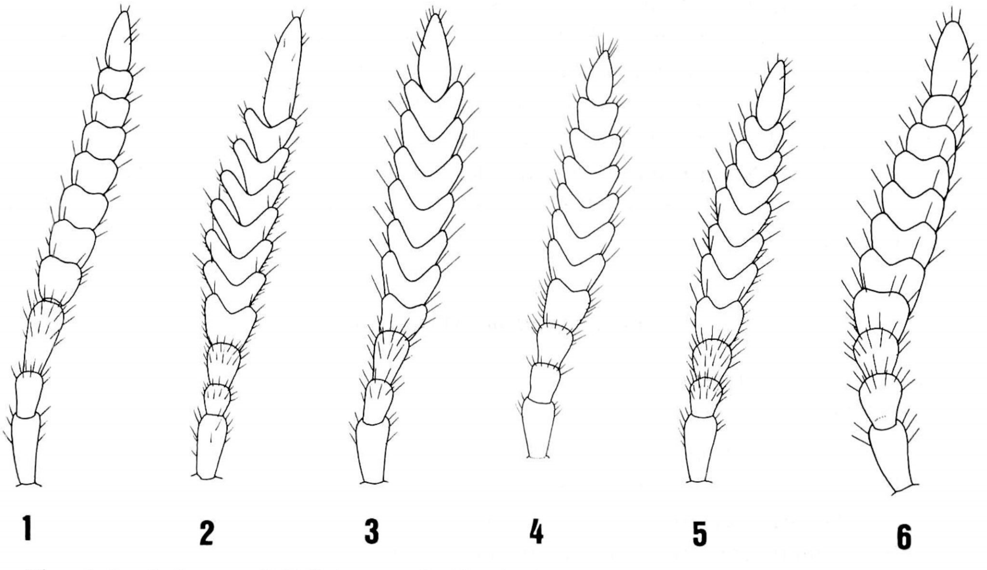
Velleius MANNERHEIM, 1831, Brachel., 16.
Other references are omitted.

Type species: *Staphylinus dilatatus* FABRICIUS.

The genus *Velleius* is a small group in the tribe Quediini of the subfamily Staphylininae. The members of this genus have very peculiar antennae, of which the 4th to 10th segments are conspicuously serrate. They are often found in the nests of *Vespa* or associated with *Cossus*.

Key to the Japanese Species of *Velleius*

1 (6) Body large, more than 15 mm in length.
2 (3) Lobed parts of 4th to 10th antennal segments only slightly emarginate at the middle; humeral angles of elytra yellowish.... *V. dilatatus* (FABRICIUS).
3 (2) Lobed parts of 4th to 10th antennal segments deeply excised at the middle.
4 (5) Elytral epipleura uniformly dark reddish black; apical segment of antenna remarkably large, about as long as the three preceding segments together .... *V. pectinatus* SHARP.
5 (4) Elytral epipleura yellowish in anterior two-thirds; apical segment of antenna nearly spindle-shaped and about as long as the two preceding segments together.. *V. setosus* SHARP.
6 (1) Body small, less than 12 mm in length.
7 (10) Postocular part about a half as long as the longitudinal diameter of eye; 3rd antennal segment longer than broad.
8 (9) Head semicircular, less than 1.3 times as broad as long, fused paramere of male genital organ gradually tapered towards the apex.................. .... *V. elongatus* NAOMI.
9 (8) Head subquadrate, more than 1.4 times as broad as long, fused paramere abruptly tapered in apical fourth towards the apex..................... .... *V. japonicus* Y. WATANABE, sp. nov.
10 (7) Postocular part about one-third as long as the longitudinal diameter of eye;



Figs. 1–6. Antennae of *Velleius* spp. (inside view). —— 1, *V. dilatatus* (FABRICIUS); 2, *V. pectinatus* SHARP; 3, *V. setosus* SHARP; 4, *V. elongatus* NAOMI; 5, *V. japonicus* Y. WATANABE, sp. nov.; 6, *V. amamiensis* Y. WATANABE, sp. nov.

3rd segment of antenna as long as broad ....
.... *V. amamiensis* Y. WATANABE, sp. nov.

Velleius dilatatus (FABRICIUS)

(Figs. 1, 7–9)

Staphylinus dilatatus FABRICIUS, 1787, Mant. Ins., **1**: 220.

Quedius dilatatus: ERICHSON, 1840, Gen. Spec. Staph., 524; KRAATZ, 1858, Naturg. Ins. Dtschl., **2**: 490.

Velleius dilatatus: MANNERHEIM, 1830, Brachel., 16; FAUVEL, 1872, Fn. Gallo-Rhén., **3**: 491; SHARP, 1874, Trans. ent. Soc. London, **1874**: 23; 1889, Annls. Mag. nat. Hist., (6), **3**: 29; GANGLBAUER, 1895, Käf. Mitt.-Eur., **2**: 390; REITTER, 1909, Fn. Germ., **2**: 115; BERNHAUER & SCHUBERT, 1916, Coleopt. Cat., pars 67 (Staphylinidae V): 416; WINKLER, 1925, Cat. Coleopt. reg. palaearct., pars 4: 388; SCHEERPERTZ, 1933, Coleopt. Cat., pars 129 (Staphylinidae VII, Supplement I): 426; ADACHI, 1936, Kagaku no Nogyo, Tokyo, **17**: 31; YOKOYAMA & ADACHI, 1951, Icon. Ins. Japon., 2nd ed., 1014, fig. 2894; ADACHI, 1957, J. Toyo Univ., (11): 180; NAKANE, 1963, Icon. Japon. Col. nat. ed., **2**: 94, pl. 47, fig. 17; YAMASHITA *et al.*, 1963, Ins. Fn. Suzuka Mts., 248; HIGUMA, 1964, Bull. Nagaoka munic. Sci. Mus., (3): 95; LOHSE, 1964, Käf. Mitt.-Eur., **4**: 205; OHKURA *et al.*, 1967, Minoo-san no Dôbutsu-sô Chôsa, (rev. ed.), 137; TANAKA, 1971, List Ins. Toyama Pref., 147; KAWABE & SUZUKI, 1972, Ins. Fn. Kiyosato Plateau, (1): 61; TANAKA, 1975, Kita-Kyûshû no Konchû, **21**: 68; NAKANE, 1975, Gakken Chû-kô-sei Zukan, **2**: 331; COIFFAIT, 1978, Nouv. Rev. Ent., Suppl. 8: 285; TAKAMIZAWA, 1981, New Entomol., Ueda, **30**: 60, 62; NAOMI, 1981, Kita-Kyûshû no Konchû, **28**: 69; HOZUMI, 1983, Kakôchô, Ichinomiya, **35** (134): 26; SHIBATA, 1984, Annual Bull. Nichidai Sanko, (22): 117; 1985, Coleopt. Japan Col., Osaka, **2**: 308, pl. 54, fig. 6; SASAJI & SAITO, 1985, List Ins. Fukui Pref., 111; WATANABE, 1986, Coleopt. News, Tokyo, (71): 3; HIRASHIMA *et al.*, 1989, Check list Jpn. Ins., **1**: 277; WATANABE, 1989, Coleopt. Miyagi Pref. Japan, 122.

Velleius pectinatus: MATSUMURA, 1905, Nihon Senchû-zukai, **3**: 29, pl. 40, fig. 11; 1915, Konchû Bunrui-gaku, **2**: 209; 1931, 6000 Ill. Ins. Jpn.-Emp., 130, fig. 155; YOKOYAMA, 1931, Zoku Nippon no Kôchû, 126, pl. 16, fig. 18; 1932, Icon. Ins. japon., 734, fig. 1441; YAMAJI, 1935, Ins. World, Gifu, **3**: 183; WATANABE, 1989, Coleopt. Miyagi Pref. Japan, 122. [Nec SHARP, 1874.]

Body length: 15.0–23 mm (from front margin of head to anal end).

Body robust and shining; colour black, head and pronotum sometimes tinged with dark red, with apical segment of antenna testaceous, and humeral angles of elytra yellowish.

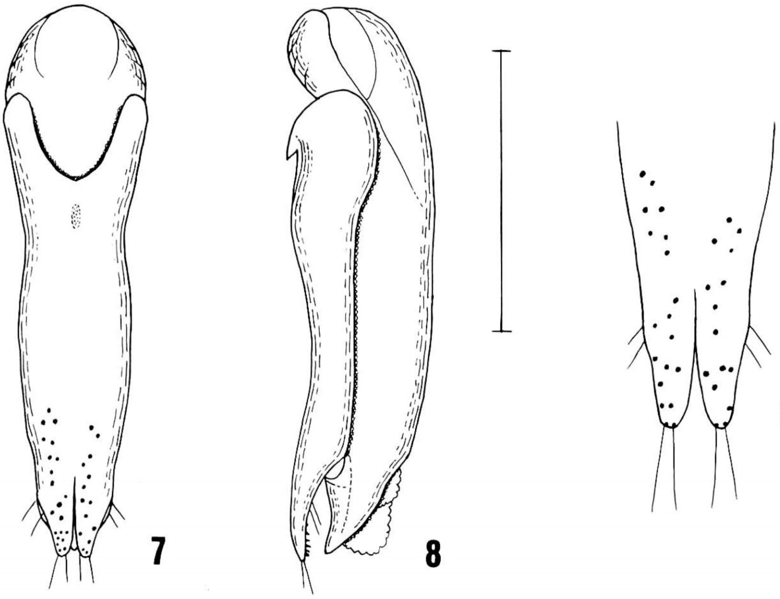
Head subquadrate, transverse (width/length=1.23) and remarkably narrower than pronotum (head/pronotum=0.65); postocular part feebly arcuate and gently constricted at neck, bearing a number of rather coarse setiferous punctures; disc covered with sparse, extremely fine punctures and microscopic coriaceous ground sculpture, both of which are visible under high magnification; eyes relatively large, somewhat prominent laterally, its longitudinal diameter nearly as long as postocular part. Cephalic chaetotaxy as follows: one front seta situated on each side of front margin, one post-antennal seta just behind each antennal tubercle, two orbital setae inside each eye, two basal setae on each side just before basal margin, one internal temporal seta inside temporal bristled area, and one temporal seta in temporal bristled area. Antennae short, not reaching middle of pronotum, basal three segments polished and the remainings opaque; lst segment dilated apically, more than twice as long as broad, 2nd about 1.5 times as long as broad but evidently shorter than lst (2nd/1st=0.61), 3rd dilated apically, as long as lst and about 1.5 times as long as broad, 4th to 10th segments serrate and only slightly emarginate at the middle of each inner margin, 5th to 10th gradually decreasing in size, apical segment nearly spindle-shaped, about 1.8 times as long as 10th.

Pronotum strongly convex and transverse (width/length=1.10), widest behind the middle and more strongly narrowed anteriad than posteriad, with lateral portion slightly deplanate; all the margins practically not bordered, except for finely bordered anterior angles, which are narrowly rounded, posterior angles completely rounded off, posterior margin semicircularly expanded posteriad; surface smooth, with a dorsal series of two small setiferous punctures on each side of the middle in anterior half, sparsely with a number of small setiferous punctures along inner sides of lateral and basal margins. Scutellum triangular, somewhat sparingly covered with brownish pubescence. Elytra nearly quadrate and as broad as pronotum; surface closely covered with rather fine asperate punctures and fine brownish pubescence, and besides, there are outstanding short coarse blackish setae, numerous on each lateral margin, three pairs or so along suture and four or five paris between inner side of humeral angles and the median portion, but these setae are sometimes missing.

Abdomen gradually tapered towards the anal end; each tergite covered with moderately close, fine punctures and blackish pubescence, basal five visible tergites each provided with five or so conspicuous blackish setae on each side of hind margin, and 3rd to 5th visible tergites each also with two similar setae on each side of the middle, but these setae are sometimes missing; in male, 5th and 6th sternites each provided with a bunch of blackish fine hairs at the middle, last sternite shallowly emarginate at the middle of hind margin, and somewhat depressed and smooth in front of this emargination. Legs relatively stout, front tarsi widened in both sexes.

Male genital organ well sclerotized; median lobe slightly shorter than fused paramere, gradually narrowed posteriad and abruptly tapered near the apical part; ventral surface excavated before the apex, posterior margin of this excavation somewhat produced ventrally in profile; fused paramere symmetrical, somewhat dilated in the median part, and more evidently narrowed towards the apex than towards the base, apical part divided by a deep cleft into two lobes, which are only narrowly separated from each other, each lobe being fringed with four short setae, two on lateral margin and the remaining two at the apex, internal face with a number of black sensorial tubercles spread over the apical part.

This species can be easily distinguished from the other Japanese members of *Velleius* by the larger body, 4th to 10th antennal segments only slightly emarginate at the middle of respective inner sides, and the structure of male genital organ. Nevertheless, this species had been confused with the following species before the World War II. Because of this confusion, the species recorded by MATSUMURA (1905, 1915, 1931), YOKOYAMA (1931, 1932) and YAMAJI (1935) under the name *V. dilatatus*



Figs. 7–9. Male genital organ of *Velleius dilatatus* (Fabricius); 7, ventral view; 8, lateral view; 9, apical part of fused paramere. Scale: 1.0 mm (7, 8); 0.25 mm (9).

seems to belong to the following species.

Specimens examined. 1 ♂, Shikotsu Lake, Iburi, Hokkaido, Japan, 29–VII–1955, Y. Watanabe leg.; 1 ♂, Tachiyazawa, Higashitagawa, Yamagata Pref., Honshu, Japan, 3–VIII–1953, Y. Watanabe leg.; 1 ♂, same locality as above, 4–VIII–1950, Y. Watanabe leg.; 1 ♀, Shizu, Sadogashima Is., Niigata Pref., Japan, 10–IX–1982, N. Gokan leg.; 1 ♂, Hinoharu, Yamanashi Pref., Honshu, Japan, 8–VII–1979, K. Sasaki leg.; 1 ♂, 2 ♀♀, same locality as above, 4–VII–1985, A. Miyamoto leg.; 1 ♀, Anayama, Yamanashi Pref., Honshu, Japan, 30–VIII–1981, R. Terakoshi leg.

Distribution. Japan (Hokkaido, Honshu, Sadogashima Is., Awashima Is.); China, Europe.

Remarks. It has been known from old times that this species is frequently found in the nest of *Vespa* in Europe. In Japan, it is also found in the nests of *Vespula schrencki* and *Vespula shidai* (Takamizawa, 1981, pp. 60, 62). Sharp (1889, p. 29) reported that the staphylinid was associated with the larvae of *Cossus* in Japan. However, it is more commonly found attracted to the sap of broadleaved trees, such as *Quecus acutissima* Carrutherus.

Velleius pectinatus Sharp

(Figs. 2, 10–12)

Velleius pectinatus Sharp, 1874, Trans. ent. Soc. London, **1874**: 24; Bernhauer & Schubert, 1916, Coleopt. Cat., pars 67 (Staphylinidae V): 416; Winkler, 1925, Cat. Coleopt. reg. palaearct., pars

4: 388; ADACHI, 1936, Kagaku no Nogyo, Tokyo, **17**: 32; GYOTOKU, 1941, Kyûshû Konchû Dôkôkai Kaishi, **3**: 6; NAKANE, 1949, Trans. Essa ent. Soc., **3**: 72; ADACHI, 1957, J. Toyo Univ., (11): 180; ÔMACHI *et al.*, 1960, Bull. Mie Univ. For., (4): 15; NAKANE, 1963, Icon. Ins. Japon. Col. nat. ed., **2**: 94, pl. 47, fig. 18; TANAKA, 1975, Kita-Kyûshû no Konchû, **21**: 68; NAKANE, 1975, Gakken Chû-kô-sei Zukan, **2**: 241, pl. 61; YOSHIDA, 1978, Kôtsuzan no Shizen, 57; NAOMI, 1981, Kita-Kyûshû no Konchû, **28**: 69; SHIBATA, 1984, Annual Bull. Nichidai Sanko, (22): 118; 1985, Coleopt. Japan Col., Osaka, **2**: 307, pl. 54, fig. 5; HIRASHIMA *et al.*, 1989, Check list Jpn. Ins., **1**: 277.

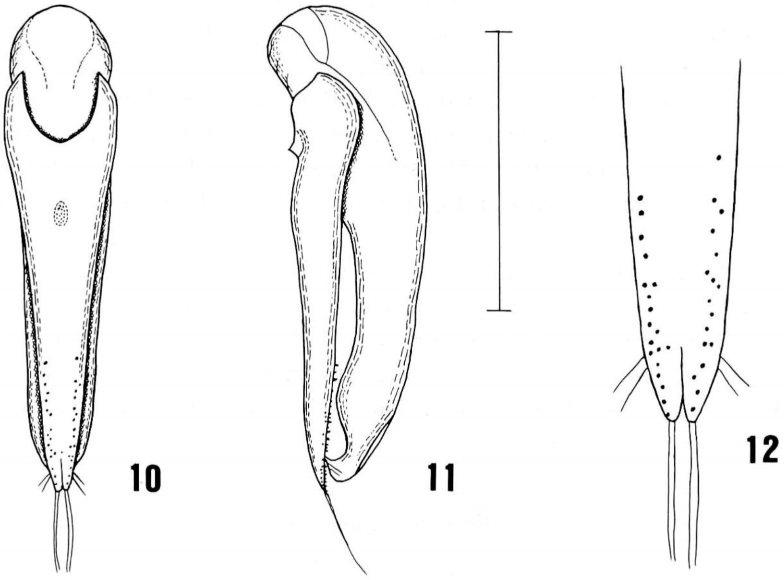
Velleius pectinalis [sic !]: HAGA, 1983, Gekkan-Mushi, Tokyo, (152): 36.

Body length: 14.4–20.9 mm (from front margin of head to anal end).

This species somewhat resembles the preceding in general appearance, but can be distinguished from it by the following points:

Body smaller in size; eyes relatively large, its longitudinal diameter evidently longer than postocular part (1.25–1.60); antennae relatively long, extending a little beyond the middle of pronotum, with 3rd segment apparently shorter than 1st (3rd/1st=0.75–0.80), lobed parts of 4th to 10th segments each deeply excised at the middle, apicalmost stout and remarkably large, about as long as the three preceding segments together; elytral epipleura uniformly dark reddish black; in male, 5th and 6th abdominal sternites lacking in the bunch of fine blackish hairs.

Male genital organ well sclerotized and elongate; median lobe slightly shorter than fused paramere, gradually and slightly tapered posteriad, remarkably excavated before apex and the posterior margin of this excavation markedly projecting ventrad



Figs. 10–12. Male genital organ of *Velleius pectinatus* SHARP; 10, ventral view; 11, lateral view; 12, apical part of fused paramere. Scale: 1.0 mm (10, 11); 0.25 mm (12).

in profile; fused paramere narrower than median lobe, distinctly tapered towards the apex, which is shallowly excised at the middle and fringed with two pairs of setae, lateral pair short and apical pair conspicuously longer than the lateral, internal face scattered with rather numerous black sensorial tubercles in posterior half.

Specimens examined. 1 ♂, near Tadain, Kawanishi-shi, Hyôgo Pref., Honshu, Japan, 9–VII–1989, M. NISHIMURA leg.; 1 ♂, Harada, Kobe, Hyôgo Pref., Honshu, Japan, 5–VI–1912, collector unknown; 1 ♂, Emimura, Mimasaka, Honshu, Japan, 15–VII–1913, collector unknown; 1 ♀, same locality as above, 13–VII–1913, collector unknown; 1 ♀, Matsuki, Mimasaka, Honshu, Japan, VII–1913, J. E. A. LEWIS leg.

Distribution. Japan (western Honshu, Shikoku, Kyushu); Korea, China.

Remarks. In the original description, SHARP (1874, p. 24) pointed out that this species was found in association with *Cossus*, though NAOMI (1981, p. 69) recorded it to have been found at the sap of a broadleaved tree and HAGA (1983, p. 36) in a baited trap (crude sugar syrup).

Although this species was recorded by the present author (1964, p. 23) from Hokkaido and Shikoku, this record was based on a misidentification, and the specimens in question actually belong to the following species. It was also recorded from Taiwan by NAOMI (1984, p. 5), but his illustration does not agree with the male genital organ of this species.

Velleius setosus SHARP

(Figs. 3, 13–15)

Velleius setosus SHARP, 1889, Annls. Mag. nat. Hist., (6), **3**: 29; BERNHAUER & SCHUBERT, 1916, Coleopt. Cat., pars 67 (Staphylinidae V): 416; DOI, 1924, Ins. World, Gifu, **28**: 304; WINKLER, 1925, Cat. Coleopt. reg. palaearct., pars 4: 388; ADACHI, 1936, Kagaku no Nogyo, Tokyo, **17**: 33; 1951, Icon. Ins. Japon., 2nd ed., 1015, fig. 2895; 1957, J. Toyo Univ., (11): 180; NAOMI, 1981, Kita-Kyûshû no Konchû, **28**: 69; SHIBATA, 1984, Annual Bull. Nichidai Sanko, (22): 119; 1985, Coleopt. Japan Col., Osaka, **2**: 307, pl. 54, fig. 7; SUZUKI, 1986, Bull. Gifu Pref. Mus., (9): 42.

Uelleins [sic !] *setosus*: YAMAWAKI, 1988, Kita-Kyûshû no Konchû, **35**: 33.

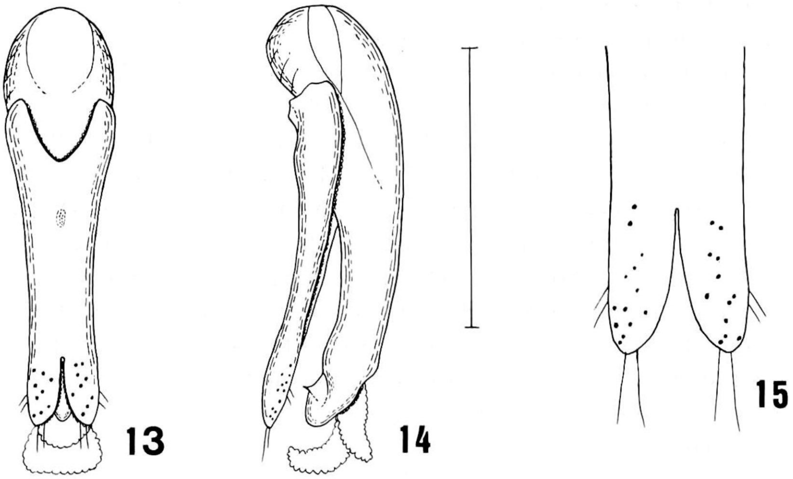
Velleius pectinatus: KAMIYA & ADACHI, 1933, Genshoku Kôchû Zufu, pl. 11, fig. 12; WATANABE, 1964, Ins. Niigata Pref., (8): 22. [Nec SHARP, 1874.]

Body length: 16.0–19.0 mm (from front margin of head to anal end).

This species is closely allied to the preceding species in the characteristics of antennae, of which the 4th to 10th segments are deeply excised at the middle of respective inner sides, though clearly differing from the latter in the following points:

Body much smaller in size; head with postocular part relatively long, about as long as the longitudinal diameter of eye; antennae short, not reaching the middle of pronotum, with 3rd segment about as long as 1st, apicalmost narrow, nearly spindle-shaped and much shorter than the three preceding segments together; elytral epipleura yellowish in anterior two-thirds; in male, median emargination of hind margin of last abdominal sternite much shallower.

Male genital organ decidedly different from those of the other Japanese species.



Figs. 13–15. Male genital organ of *Velleius setosus* SHARP; 13, ventral view; 14, lateral view; 15, apical part of fused paramere. Scale: 1.0 mm (13, 14); 0.25 mm (15).

Fused paramere symmetrical, almost parallel-sided and somewhat longer than median lobe, apical part divided by a deep cleft into two lobes, each of which is fringed with four short setae, two along outer margin and the remaining two at the apex, and provided with a number of black sensorial tubercles on the internal face.

Specimens examined. 1 ♂, Kawayu, Hokkaido, Japan, 10–VIII–1950, R. KANO leg.; 2 ♂♂, 2 ♀♀, near Mt. Apoi-dake, Hidaka, Hokkaido, Japan, 26–VII–1964, M. WATANABE leg.; 1 ♂, 1 ♀, same locality as above, 26∼27–VII–1964, M. SAWADA leg.; 1 ♀, Maruyama, Sapporo, Hokkaido, Japan, 18–VIII–1915, S. KUWAYAMA leg.; 2 ♂♂, 4 ♀♀, Mt. Moiwa, Sapporo, Hokkaido, Japan, 11–VIII–1964, K. SASAKI leg.; 1 ♀, Lakeside of Ônuma, Oshima, Hokkaido, Japan, 23–VIII–1953, Y. YASUDA leg.; 1 ♂, Kurokawa, Kitakanbara, Niigata Pref., Honshu, Japan, 14–VIII–1966, K. BABA leg.; 1 ♂, Okutadami, M. Echigo, Niigata Pref., Honshu, Japan, 29–VII–1961, H. KOIKE leg.; 1 ♀, Ozegahara, Gunma Pref., Honshu, Japan, 20∼24–VIII–1979, M. SATÔ leg.; 1 ♂, Mt. Daibosatsu, Yamanashi Pref., Honshu, Japan, 22∼24–VIII–1931, T. ADACHI leg.; 1 ♂, Mt. Mitsu-tôge, Yamanashi Pref., Honshu, Japan, 8–VIII–1982, R. TERAKOSHI leg.; 3 ♂♂, Fujii-dani, Sotoyamabe, Nagano Pref., Honshu, Japan, 24–VII–1980, Y. FURIHATA leg.; 1 ♀, Mt. Ishizuchi, Shikoku, Japan, 27–VII–1953, M. OKABE leg.

Distribution. Japan (Hokkaido, Honshu, Shikoku, Kyushu, Yakushima Is.).

Velleius elongatus NAOMI

(Fig. 4)

Velleius elongatus NAOMI, 1986, Trans. Shikoku ent. Soc., **17**: 244.
Velleius setosus: WATANABE, 1977, Coleopt. News, Tokyo, (37): 6. [Nec SHARP, 1889.]

Body length: 10.0–12.0 mm (from front margin of head to anal end).

The present species can be easily distinguished from the three preceding species by the much smaller body and the male genital organ with median lobe longer than fused paramere.

Specimens examined. 1 ♂, Mt. Gori, Hiroshima Pref., Honshu, Japan, 22–VII–1979, H. ARAMAKI leg. (holotype); 1 ♀, Oguni, Sera, Hiroshima Pref., Honshu, Japan, 8–XI–1976, T. NAKAJIMA leg.

Distribution. Japan (western Honshu).

Remarks. The above-mentioned female specimen was found in the nest of *Vespa mandarinia* SMITH.

Velleius japonicus Y. WATANABE, sp. nov.

(Figs. 5, 16–18)

Velleius setosus: MINAGAWA, 1968, Coleopt. News, Tokyo, (2): 4. [Nec SHARP, 1889.]

Body length: 11.1–11.8 mm (from front margin of head to anal end).

The present new species may be placed near *V. elongatus* in view of the small body and the antennal features, but can be distinguished from the latter by the quadrate head and different configuration of male genital organ.

Head quadrate, a little broader than long (width/length=1.30) and somewhat depressed above; postocular part apparently shorter than the longitudinal diameter of eye, bearing a number of small setiferous punctures; dorsal surface practically impunctate, though covered with sparse, extremely minute punctures and with close microscopic ground sculpture. Cephalic chaetotaxy as follows: one front seta on each side of front margin, one postantennal seta just behind each antennal tubercle, two orbital setae inside each eye, one basal seta on each side just before basal margin, one internal temporal seta inside temporal bristled area, and one temporal seta in temporal bristled area. Antennae relatively short, hardly reaching the median portion of pronotum, basal three segments polished and dilated apically, the remainings opaque, 1st segment more than 1.5 times as long as 2nd, which is almost as long as broad, 3rd somewhat longer than broad (length/width=1.25) but slightly shorter than 1st (3rd/1st=0.91), 4th to 10th segments serrate and deeply excised at middle of respective inner margins, apicalmost nearly elliptical and about as long as the two preceding segments together.

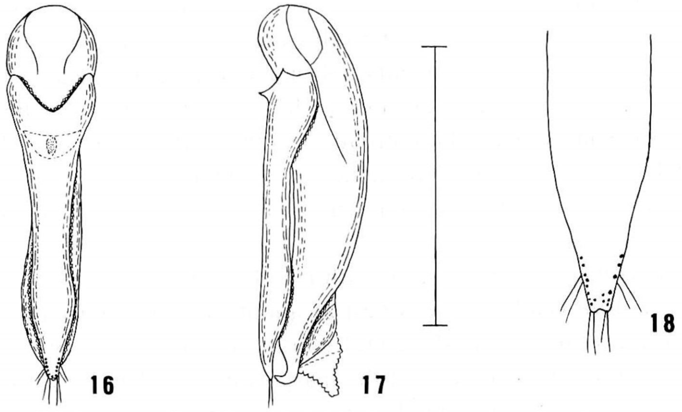
Pronotum convex, transverse (width/length=1.17) and remarkably broader than head (pronotum/head=1.35), widest at about posterior third and more strongly narrowed anteriad than posteriad; lateral margin arcuate and continuing onto basal margin, which is broadly rounded, all the margins not bordered, except near anterior angles which are very finely bordered; surface smooth, provided with a pair of dorsal series of setiferous punctures on the middle in about anterior fourth and three or so similar setiferous punctures on each lateral part in anterior half, and fringed with numerous, conspicuous blackish setae inside lateral and basal margins. Scutellum triangular, surface covered with fine brownish pubescence. Elytra nearly quadrate, somewhat transverse (width/length=1.12) and a little broader than pronotum (elytra/pronotum=1.12); surface covered with punctures and pubescence, the former of which are fine and asperate, the latter brownish and relatively long, and fringed with a number of blackish setae as those of pronotum on lateral and posterior margins.

Abdomen elongate, gradually narrowed posteriorly; surface of each tergite rather sparsely punctured and pubescent like elytra, basal four visible tergites each shallowly and transversely depressed along basal margin, and fringed with a number of short blackish setae along posterior margin; last sternite in male subtriangularly excised at the middle of posterior margin and more or less flattened in front of this excision. Legs with widely dilated tarsi in both sexes.

Male genital organ elongate and well sclerotized; median lobe only slightly longer than fused paramere and abruptly tapered before the apex; viewed laterally, ventral surface markedly excavated before the apex and posterior margin of the excavation acutely pointed; fused paramere almost symmetrical, narrowed at the middle and somewhat dilated before the apex, though narrower than median lobe even at the widest part, apical part fringed with four setae, two apical and two lateral, and provided with only a small number of black sensorial tubercles distributed along margins of internal face, apical margin slightly emarginate at the middle.

Holotype: ♂, Higashimurayama, Tokyo Pref., Honshu, Japan, 23–VI–1965, N. MINAGAWA leg. Paratypes: 1 ♂, same data as for the holotype; 1 ♂, Toyoiwa, Akita-shi, Akita Pref., Honshu, Japan, 12–VIII–1987, M. ÔKURA leg. All the types are preserved in the collection of the Laboratory of Entomology, Tokyo University of Agriculture.

Distribution. Japan (central and northeastern Honshu).



Figs. 16–18. Male genital organ of *Velleius japonicus* Y. WATANABE, sp. nov.; 16, ventral view; 17, lateral view; 18, apical part of fused paramere. Scale: 1.0 mm (16, 17); 0.5 mm (18).

Remarks. The holotype and one paratype were obtained at a sap of the broad-leaved tree, *Quercus acutissima* CARRUTHERUS.

Velleius amamiensis Y. WATANABE, sp. nov.

(Figs. 6, 19, 20–22)

Body length: 9.4 mm (from front margin of head to anal end).

This new species resembles the preceding in general appearance, but can be distinguished from the latter by the following points:

Body smaller in size; head suborbicular, with postocular part much shorter, about one-third as long as the longitudinal diameter of eye; antennae with 3rd segment about as long as broad, 5th to 7th only shallowly excised, and 4th and 8th to 10th very shallowly emarginate at the middle of respective inner sides; pronotum less transverse (width/length = 1.1), though much broader than head (pronotum/head = 1.43).

Male genital organ also similar in general appearance to that of the preceding species, but different from the latter in the following details: Median lobe gradually

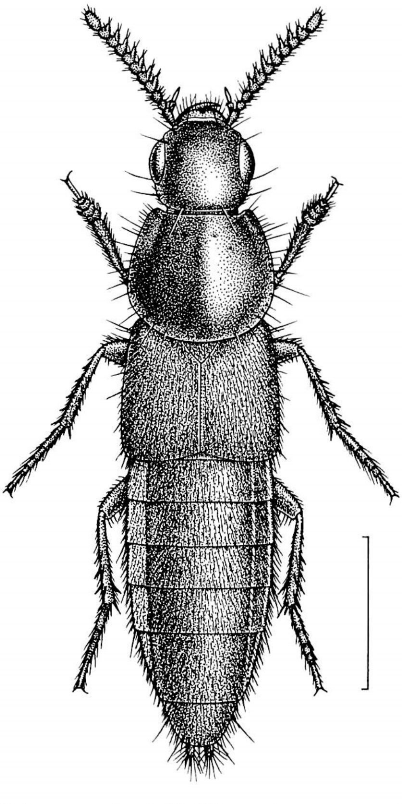
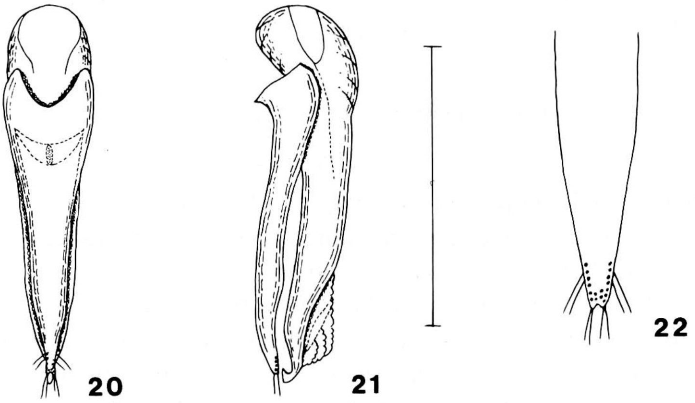


Fig. 19. *Velleius amamiensis* Y. WATANABE, sp. nov. Scale: 2.0 mm.



Figs. 20–22. Male genital organ of *Velleius amamiensis* Y. WATANABE, sp. nov.; 20, ventral view; 21, lateral view; 22, apical part of fused paramere. Scale: 1.0 mm (20, 21); 0.5 mm (22).

narrowed towards the apex; fused paramere narrower, more strongly tapered apicad and hardly dilated before the apical part, which is narrowly prolonged posteriad, and the apex more evidently excised at the middle.

Holotype: ♂, Hatsuno, Amami-Ohshima Is., Kagoshima Pref., Japan, 27–VIII–1985, H. HAYAKAWA leg., preserved in the collection of the Laboratory of Entomology, Tokyo University of Agriculture.

Distribution. Japan (Amami-Ohshima Is.).

要　約

渡辺泰明: 日本産クシヒゲハネカクシ属の再検討. —— 日本産クシヒゲハネカクシ属の分類学的再検討を行なった結果, 新たに下記の2新種を見いだしたので, それらの雄交尾器を含めた形態的特徴を記載すると同時に, 既知の種を含めた日本産種の検索表を与えた.

ヤマトクシヒゲハネカクシ *V. japonicus* は, 体長および触角の構造が *V. elongatus* NAOMI に類似しているが, 四角形に近い頭部の形および雄交尾器の癒合した側片が末端付近前方でゆるやかに拡がる点において異なり, 後者から区別することができる.

アマミクシヒゲハネカクシ *V. amamiensis* は上記の *V. japonicus* に似ているが, 頭部が円形に近く, 側頭部の長さは複眼長径の1/3であること, 雄交尾器の癒合した側片は末端付近前方でほとんど拡がらず, 末端付近は細長く伸長していることなどの点で区別することができる.

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Elytra, Tokyo, **18** (1): 73–81, May 15, 1990

Four New Scarabaeid Beetles (Coleoptera, Scarabaeidae) from Taiwan

Hirokazu Kobayashi

3–16, Kamishakujii-minamichô, Nerima-ku, Tokyo, 177 Japan

Abstract Four new scarabaeid beetles, *Holotrichia guangaoshana* sp. nov., *Holotrichia herwangshana* sp. nov., *Taiwanotrichia longicornis* gen. et sp. nov., and *Platysodes formosanus* sp. nov. are described from Taiwan. *Taiwanotrichia* belongs to the tribe Ryzotrogini, and seems to have a relationship with *Hilyotrogus* or *Toxospatinus*. *Platysodes* is newly recorded from Taiwan.

In this papar the author will describe four new species of scarabaeid beetles from Taiwan, of which one genus is new to science and another genus is newly recorded from Taiwan. All the holotypes designated in this study are preserved in the collection of the author.

Before going further the author wishes to express his sincere appreciation to Messrs. H. Sakaino and J. Lo for their kindness in entrusting those valuable specimens to the author for investigation.

Holotrichia guandaoshana H. Kobayashi, sp. nov.

(Figs. 1, 5)

Body almost entirely black, antennal club dark blackish brown to black. Surface of body opaque, opalescent in certain light, with anterior margin of clypeus, antennal footstalk and legs shining, abdominal sternites feebly shining (except for the sides of the 5th).

Clypeus subtrapezoidal, roundly emarginate at anterior margin, very densely punctate. Frons densely punctate, somewhat large at middle, fronto-clypeal suture bisinuate. Eyes very small, their interspace being about one-seventh as broad as frons in both sexes. Antennae 10-segmented, with club as long as 2nd to 6th segments together in male, a little shorter in female.

Pronotum 2.1 times as broad as its length, densely and longitudinally punctate; lateral margins gently curved at the middle, narrowed to front, subparallel in basal half, sparsely crenate, and bearing short hairs; anterior margin bordered with a row of punctures, anterior angles sharp and subrectangular, posterior ones rounded. Scutellum broad triangular, very sparsely punctate near anterior margin, almost impunctate in other places. Elytra 4.3 times as long as length of pronotum, each with a sutural and four discal costae, sutural costa evident, broad, inconspicuously

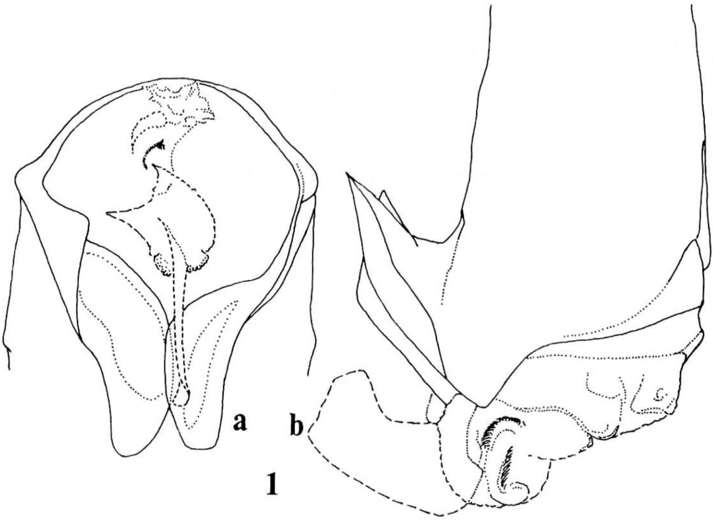

Fig. 1. Male genitalia of *Holotrichia guandaoshana* sp. nov.; a, frontal view; b, lateral view.

punctate, 1st costa broadened posteriorly and touching sutural one, intervals rather sparsely punctate.

Pygidium rather densely punctate, rather convex near apex in male, feebly and uniformly convex in female, with apex somewhat truncate. Ventral surface of thorax densely covered with long hairs. Abdominal sternites, densely and finely punctate, bearing minute hairs (sides of 2nd abdominal sternite with rather long hairs, and opaque parts of the 5th with long hairs). Anterior tibiae tridentate. Posterior femora 4.5 times as long as its breadth. Posterior tibia without complete outer ridge, terminal spurs slender, outer one longer than basal tarsal segment, which is as long as the 2nd.

Length: 18.5–22.0 mm; breadth: 10.0–12.0 mm.

Holotype: ♂, Guandaoshan, Nantou Hsien, 17–IV–1986, J. LO leg. Paratypes: 3 ♂♂, 1 ♀, same data as for the holotype.

Distribution. Taiwan.

This species somewhat resembles *H. shibatai* NOMURA, 1977, but the abdomen is shining, the pronotum bears longitudinal punctures and the pygidium is somewhat truncate at the apex.

Holotrichia herwangshana H. KOBAYASHI, sp. nov.

(Figs. 2, 6)

Body reddish brown to light reddish brown, pronotum and scutellum somewhat dark colored, antennal club yellowish brown. Surface of body shining.

Clypeus weakly bilobate, margins bordered, surface coarsely and shallowly punctate. Frons convex, rather densely punctate, fronto-clypeal suture widely arched, almost straight at middle. Vertex rather sparsely punctate, almost smooth near posterior margin. Antennae 10-segmented, club one-third as broad as its length, longer than total length of 2nd to 7th segments in male.

Pronotum 1.9 times as broad as its length, finely and rather sparsely punctate, with a feeble longitudinal line from apex to base; anterior margin bordered, lateral margins curved behind middle, gradually narrowed to front and base, broadly crenate, fringed with sparse hairs; anterior angles sharp and subrectangular, posterior ones somewhat angulate. Scutellum broader than its length, smooth and almost impunctate. Elytra each with a sutural and four discal costae, 1st costa broadened posteriorly and touching sutural one, two outer costae very fine and inconspicuous, intervals sparsely and finely punctate.

Pygidium gently convex, finely and sparsely punctate, each puncture with a minute hair. Ventral surface of thorax densely covered with yellowish brown, long tawny hairs. Abdominal sternites finely, very sparsely punctate, sides of 2nd sternite bearing short hairs, sides of the 5th bearing long hairs, the other parts almost bare; anal sternite feebly, transversely excavated in male. Anterior tibiae slender and tridentate. Posterior femora one-fourth as broad as its length, bearing long tawny hairs in basal half and near posterior margin. Posterior tibiae with terminal spurs slender, longer one as long as basal tarsal segment, which is shorter than the 2nd.

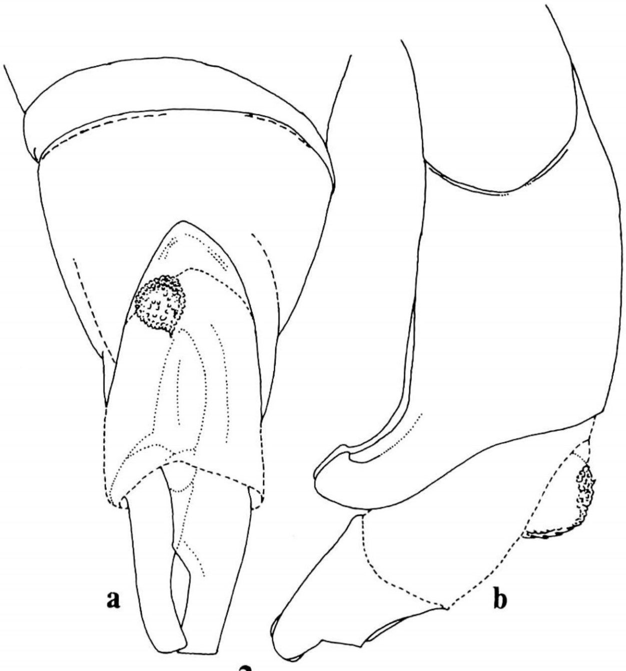

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Fig. 2. Male genitalia of *Holotrichia herwangshana* sp. nov.; a, frontal view; b, lateral view.

Claws curved near apices, nearly straight at middle, each with a strong vertical tooth beneath.

Length: 14.0–17.0 mm; breadth: 10.5–12.0 mm.

Holotype: ♂, Herwangshan, Nantou Hsien, 14–VI–1987, J. LO leg. Paratypes: 6 ♂♂, same data as for the holotype.

Distribution. Taiwan.

This species is somewhat allied to *H. mizusawai* H. KOBAYASHI, 1986, but the body surface is more strongly shining, the pronotum is finely and rather sparsely punctate, and the scutellum is almost impunctate.

Taiwanotrichia H. KOBAYASHI, gen. nov.

Ventral and dorsal surfaces with rather strong lustre. Clypeus semicircular, anterior margin not sinuate. Antennae 10-segmented with club composed of 7 lamellae, more than 3 times as long as footstalk in male. Legs slender, anterior tibiae tridentate, with a terminal spur; claws curved near apices, nearly straight at middle, each with a strong vertical tooth beneath.

Type species: *Taiwanotrichia longicornis* H. KOBAYASHI, sp. nov.

This genus may be separated from *Hilyotrogus* FAIRMAIRE by strong vertical tooth of each claw, and from *Toxospatinus* FAIRMAIRE by having a terminal spur on anterior tibia.

Taiwanotrichia longicornis H. KOBAYASHI, sp. nov.

(Figs. 3, 7)

Form elongate, with rather strong lustre except for antennae. Body yellowish brown to light brown; head blackish brown; pronotum of the same color as ventral surface, with M-shaped blackish brown maculation on disk; each elytron of the same color as pronotum, with a longitudinal blackish brown line extending from shoulder to basal third, suture and margins of scutellum blackish brown; posterior margin of each abdominal sternite blackish; legs light reddish brown, with margins of femora and tibiae dark colored, tarsi blackish brown; antennae yellowish brown.

Clypeus semicircular, weakly bordered, rather sparsely punctate, with erect sparse hairs on disk, and with fronto-clypeal suture feebly bilobate. Frons coarsely and rather sparsely punctate, feebly convex in male; vertex somewhat sparsely punctate. Eyes large and prominent, their interspace being one-third as broad as frons in male. Antennae 10-segmented with club composed of 7 lamellae, more than 3 times as long as footstalk in male. Terminal segment of maxillary palpi pear-shaped, as long as preceding two segments together. Labrum semicircular, anterior margin noticeably rised.

Pronotum 1.8 times as broad as its length, with broadest point across the middle; anterior margin bordered, lateral ones not crenate, sides of anterior margin and lateral

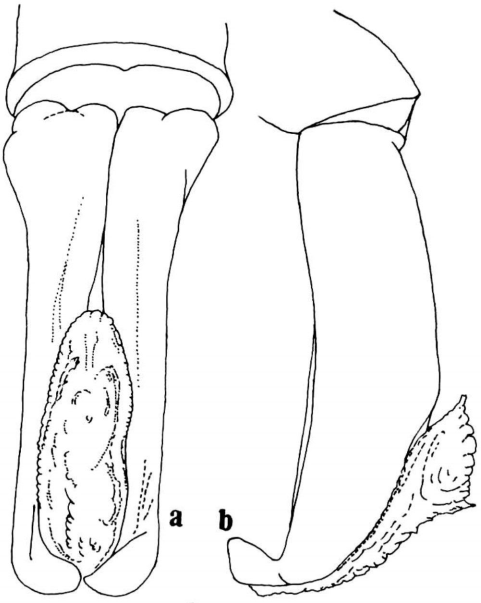

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Fig. 3. Male genitalia of *Taiwanotrichia longicornis* gen. and sp. nov.; a, frontal view; b, lateral view.

ones bearing long hairs, middle of anterior margin sparsely with short hairs, anterior and posterior angles obtuse; surface sparsely and finely punctate. Scutellum broader than long, almost flattened and impunctate. Elytra 3.8 times as broad as the length of pronotum, each elytron with a sutural and two visible feeble costae, intervals sparsely and finely punctate (somewhat partially coriaceous); lateral sides very sparsely with short hairs.

Pygidium broader than long, somewhat truncate at apex, sparsely punctate, in male weakly convex. Ventral surface of thorax rather densely clothed with long tawny hairs. Abdominal sternites rather sparsely and minutely punctate at sides, very sparsely and inconspicuously at middle, each puncture with a minute hair (sides of 5th sternite bearing long hairs); anal sternite almost flattened, with a feeble longitudinal impression at middle. Legs slender, anterior tibiae tridentate, with a rather short terminal spur, which is as long as basal tarsal segment. Posterior femora elliptical, each three times as long as its breadth, very sparsely punctate, bearing long sparse tawny hairs. Posterior tibiae each with a complete outer ridge, terminal spurs slender, longer one a little longer than basal tarsal segment, which is evidently shorter than the 2nd. Claws curved at apices nearly straight at middle, each with a strong vertical tooth beneath.

Length: 13.0 mm; breadth: 6.0 mm.

Holotype: ♂, Bandai, near Wushe, Nantou Hsien, 23–XI–1985, J. Lo leg.

Distribution. Taiwan.

Platysodes formosanus H. KOBAYASHI, sp. nov.

(Figs. 4, 8)

Form elongate and smooth, flat above. Body entirely black, shining above and beneath except for pygidium (a small white maculation near lateral margin at apical two-thirds of each elytron), almost bare.

Clypeus short, three times as broad as its length, anterior margin stout and reflexed, almost straight, sparsely and minutely punctate behind anterior margin, impunctate at middle, with a wide elevation at middle, fronto-clypeal suture vanished. Frons almost impunctate, with two round depressions at sides, vertex impunctate. Eyes rather small, their interspace one-seventh as broad as frons in male. Antennae 10-segmented with club composed of 3 lamellae, as long as 2nd to 7th segments together in male.

Pronotum 1.5 times as broad as its length, lateral margins curved behind middle, anterior angles obtusely angulate, posterior ones rounded, posterior margin distinctly excised before scutellum; surface very sparsely and inconspicuously punctulate (somewhat densely aciculate near anterior angles). Scutellum triangular, somewhat longer than its breadth, densely and somewhat reticulately foveolate in basal part, glabrous in other places. Elytra somewhat broader at shoulders than prothorax, gently sinuate

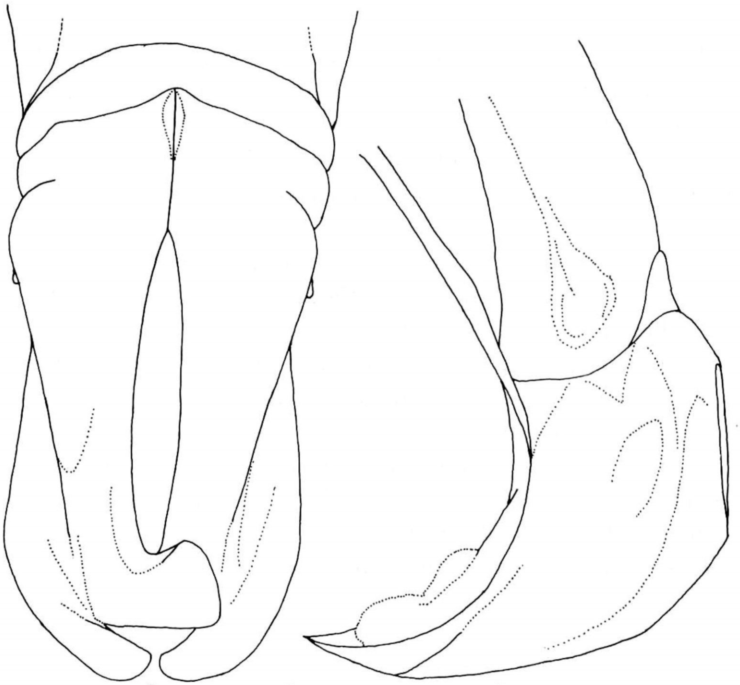
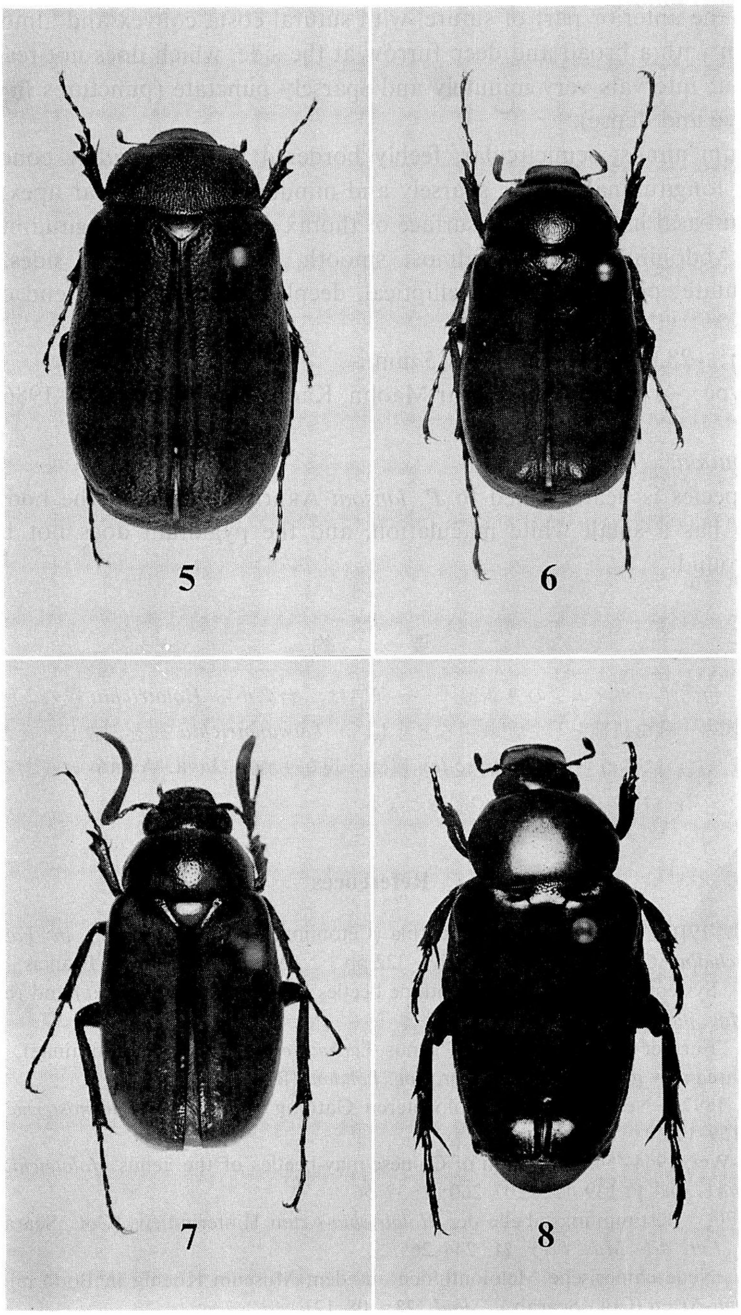


Fig. 4. Male genitalia of *Platysodes formosanus* sp. nov.; a, frontal view; b, lateral view.



Figs. 5–8. —— 5. *Holotrichia guandaoshana* sp. nov. —— 6. *Holotrichia herwangshana* sp. nov. —— 7. *Taiwanotrichia longicornis* gen. and sp. nov. —— 8. *Platysodes formosanus* sp. nov.

at the lateral margins and roundly narrowed to their extremities, with a narrow depression at the anterior part of suture, with sutural costa convex and almost smooth; each elytron with a broad and deep furrow at the side, which does not reach front or hind margin; intervals very minutely and sparsely punctate (punctures in the furrow rather coarse and dense).

Pygidium almost semicircular, feebly bordered at apex, widely concave except for median longitudinal carina, sparsely and minutely punctate near apex, somewhat verrucose in basal half. Ventral surface of thorax coarsely and longitudinally foveate at sides. Abdominal sternites almost smooth, feebly rugose at sides. Anterior tibiae bidentate; posterior femora elliptical, deeply excised near the end of posterior margin.

Length: 28.0 mm; breadth: 11.5 mm.

Holotype: ♂, Nanfengshan, near Maolin, Kaohsiung Hsien, 10–V–1986, Y. CHING leg.

Distribution. Taiwan.

This species is nearly allied to *P. jansoni* ARROW, 1925, but the body is larger, the elytron has a small white maculation, and the pygidium does not bear strong carina all round.

要　約

小林裕和: 台湾産コガネムシの4新種. —— 筆者は, 台湾から *Holotrichia* 属の2種, ならびに *Platysodes* 属の1種を新種として記載するとともに, *Taiwanotrichia* 属を創設し, それに含まれる1新種を記載した. このうちで, *Platysodes* 属は, 現在までに Java, Assam にそれぞれ1種ずつが知られるのみで, 台湾からは初めての記録となる.

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Elytra, Tokyo, **18** (1): 81, May 15, 1990

Synonymic Notes on *Copelatus* Species (Dytiscidae)

Masataka SATÔ

Biological Laboratory, Nagoya Women's University,
Nagoya, 468 Japan

Copelatus andamanicus RÉGIMBART

Copelatus andamanicus RÉGIMBART, 1899, Annls. Soc. ent. France, **68**: 302 [Iles Anadaman].
Copelatus subfasciatus ZIMMERMANN, 1919, Ent. Mitt., **8**: 76 [Formosa]. *Syn. nov.*
Copelatus socienus ryukyuensis M. SATÔ, 1961, Akitu, Kyoto, **10**: 8 [Amami-Ôshima].
Copelatus tokaraensis NAKANE, 1963, Fragm. coleopt., (6): 25 [Takara-jima].

This blackish species was recorded from the Ryukyus by SATÔ (1983) under the name *C. andamanicus*. On the other hand, NAKANE (1986, 1889) adopted the name *C. subfasciatus* for it for the reason that the body colour of *andamanicus* was said in the original description to be "rufo-ferrugineus." It is true that RÉGIMBART's type specimen is rather light-coloured, but this is most probably due to its relative immaturity. NAKANE does not seem to have been fully aware of the fact that colour changes with age in *Copelatus* as in many dytiscid beetles. Though I already suspected the above synonymy when preparing my 1983 and 1985 papers, I refrained from taking the action, because no Taiwanese specimens were available at that time.

Specimens examined. 1 ♂ (lectotype), Andaman Islands (Mus. Hist. nat., Paris); 9 exs., Tasi-tie-ku, near Liu-kuei, S. Taiwan, 2–IX–1986, K. BABA leg.

Distribution. Japan (Kyushu), Is. Yaku-shima, Ryukyus, Taiwan, Borneo, Andaman Is.

Copelatus nakamurai GUÉORGUIEV

Copelatus nakamurai GUÉORGUIEV, 1970, Bull. Inst. Zool. Mus., Sofia, **32**: 258, figs. 3–4 [Tokyo].
Copelatus hasegawai M. SATÔ, 1988, Elytra, Tokyo, **16**: 123, figs. 1–4 [Saitama Pref.]. *Syn. nov.*

Unfortunately, *C. hasegawai* is doubtless identical with *C. nakamurai*, so that the former falls in a junior synonym of the latter. This was already suggested by NAKANE (1990).

Distribution. Japan (Honshu).

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Elytra, Tokyo, **18** (1): 82, May 15, 1990

On the Validity of *Agonotrechus tenuicollis* S. UÉNO (Coleoptera, Trechinae)

Shun-Ichi UÉNO

Department of Zoology, National Science Museum (Nat. Hist.),
Shinjuku, Tokyo, 169 Japan

Agonotrechus tenuicollis S. UÉNO (1986, p. 84, figs. 1–3) is a medium-sized trechine beetle described from Shivinokhola in eastern Nepal. As was clearly demonstrated in its original description, it is intermediate in many respects between *A. iris* ANDREWES and *A. andrewesi* JEANNEL, and is evidently closer to the former than to the latter. It was, however, synonymized with the latter by DEUVE (1988, p. 80) without any convincing reason. The French author merely stated that *A. tenuicollis* "ne me paraît significativement distinct" from *A. andrewesi*, which is an "espèce à vaste répartition" and is "l'objet d'importantes variations géographiques et individuelles."

It is true that our knowledge is not sufficient about the trechine species belonging to the genus *Agonotrechus*. All but one of them have been known from only a very few specimens. Geographical and individual variations of any species have not been determined except for *A. horni* JEDLIČKA, and I am the only specialist who is fully aware of the considerable variability of *Agonotrechus* through the study of this Taiwanese species (cf. UÉNO, 1980). Besides, my opinion is based on a direct comparative study of the holotypes, which is the best possible way we can take under the present circumstances. DEUVE's conclusion is too hasty to be readily accepted, as is sometimes the case of his studies on the Trechinae. I believe that *A. tenuicollis* should be considered a good species, unless future investigations prove that *A. andrewesi* is unusually variable and that all the three taxa, *iris*, *tenuicollis* and *andrewesi*, are variants within a single polymorphic species.

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Elytra, Tokyo, **18** (1): 83–88, May 15, 1990

Notes on Scarabaeid Beetles from Lutao Island off Taiwan

Hirokazu KOBAYASHI

3–16, Kamishakujii-minamichô, Nerima-ku, Tokyo, 177 Japan

Abstract Scarabaeid beetles from Lutao Island off Taiwan are enumerated. Thirteen species known include a new species of *Maladera*, a new subspecies of *Holotrichia*, and a new subspecies of *Oxycetonia*: *Maladera kumei* sp. nov., *Holotrichia sauteri lutaoensis* subsp. nov. and *Oxycetonia jucunda lutaoensis* subsp. nov.

Recently, through the courtesy of Mr. Kunio KUME, I had an opportunity to study many specimens of scarabaeid beetles from Lutao Island off Taiwan, collected by Mr. J. LO in 1989. These specimens are classified into 7 genera and 13 species, which include *Maladera kumei* sp. nov., *Holotrichia sauteri lutaoensis* subsp. nov. and *Oxycetonia jucunda lutaoensis* subsp. nov.

List of Species

1. *Maladera kumei* H. KOBAYASHI, sp. nov.
   44 exs., Lutao Is., 11–VI–1989, J. LO leg.
2. *Apogonia bicarinata sauteri* MOSER, 1918
   32 exs., Lutao Is., 6～11–VI–1989, J. LO leg.
3. *Apogonia kamiyai* SAWADA, 1940
   5 exs., Lutao Is., 8～11–VI–1989, J. LO leg.
4. *Holotrichia sauteri lutaoensis* H. KOBAYASHI, subsp. nov.
   18 exs., Lutao Is., 6～11–VI–1989, J. LO leg.
   3 exs., Lutao Is., 19–VII–1989, J. LO leg.
5. *Anomala edentula* OHAUS, 1925
   10 exs., Lutao Is., 6～11–VI–1989, J. LO leg.
6. *Anomala corrugata* BATES, 1866
   1 ex., Lutao Is., 19–VII–1989, J. LO leg.
7. *Anomala sauteri* OHAUS, 1915
   2 exs., Lutao Is., 6～11–VI–1989, J. LO leg.
8. *Anomala expansa lutaoensis* NOMURA, 1977
   10 exs., Lutao Is., 6～11–VI–1989, J. LO leg.
   5 exs., Lutao Is., 19–VII–1989, J. LO leg.
9. *Adoretus formosanus formosanus* OHAUS, 1914
   21 exs., Lutao Is., 6～11–VI–1989, J. LO leg.
10. *Adoretus sinicus* BURMEISTER, 1855

12 exs., Lutao Is., 6～11–VI–1989, J. LO leg.

11. *Protaetia inquinata* ARROW, 1913
    8 exs., Lutao Is., 6～11–VI–1989, J. LO leg.
12. *Protaetia culta multimaculata* Y. KUROSAWA, 1959 (Fig. 6)
    6 exs., Lutao Is., 6～11–VI–1989, J. LO leg.
13. *Oxycetonia jucunda lutaoensis* H. KOBAYASHI, subsp. nov.
    26 exs., Lutao Is., 6～10–VI–1989, J. LO leg.

Maladera kumei H. KOBAYASHI, sp. nov.

[Japanese name: Kume-biroudo-kogane]

(Figs. 1, 3)

Form oval. Body reddish brown to dark reddish brown, with head sometimes dark brown, antennal club yellowish brown, tarsi dark brown to dark reddish brown. Surface of body opaque, with iridescence in certain light, anterior part of frons, clypeus, antennae and legs shining (middle tibiae somewhat dull shining; anterior part of frons sometimes opaque).

Clypeus rather coarsely and densely punctate, longitudinally and feebly carinate, without hair on disk, anterior margin feebly emarginate. Frons finely and sparsely punctate in front, minutely and shallowly behind, bearing a few erect hairs near eyes. Antennae 10-segmented, with club 1.5 times as long as footstalk in male, slightly longer in female.

Pronotum sparsely and shallowly punctate, fringed with sparse hairs on each side of anterior margin and on lateral ones, the latter gently curved near the middle, nearly straight behind and feebly sinuate before posterior angles; anterior angles subrectangular in male, somewhat protruding in female. Scutellum broader than long, rather sparsely punctate. Elytral intervals feebly convex, sparsely punctate.

Pygidium almost flattened in male, gently convex in female, somewhat densely punctate, without median smooth line, bearing scattered erect hairs near lateral and apical margins. Posterior femora broad, scantily punctate near basal margin, almost impunctate in other places. Posterior tibiae somewhat dilated, with broadest point across apical third, faintly punctate near inner sides, almost smooth in the middle, outer terminal spur slightly shorter than basal tarsal joint.

Length: 8.0–11.0 mm; breadth: 5.0–6.5 mm.

Holotype: ♂, Lutao Is., Taiwan, 11–VI–1989, J. LO leg. Paratypes: 25 ♂♂, 18 ♀♀, same data as for the holotype.

This new species is allied to *Maladera masumotoi* NOMURA, 1974, but may be distinguished by the following points: clypeus without hair on the disk, differently shaped pronotum, and pygidium without median smooth line.

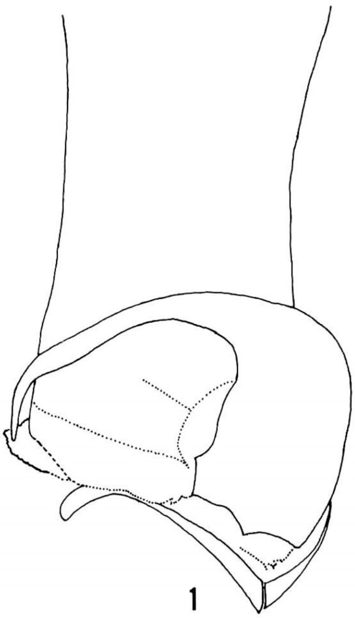


Fig. 1. Male genitalia of *Maladera kumei* H. KOBAYASHI, sp. nov.

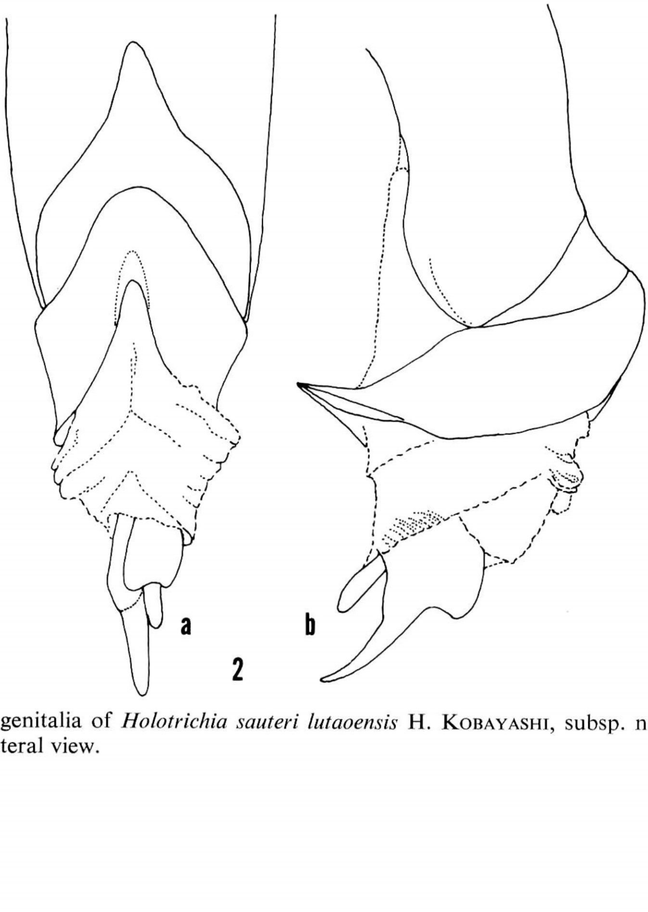


Fig. 2. Male genitalia of *Holotrichia sauteri lutaoensis* H. KOBAYASHI, subsp. nov.; a, dorsal view; b, lateral view.

Holotrichia sauteri lutaoensis H. KOBAYASHI, subsp. nov.

[Japanese name: Rutao-kurokogane]

(Figs. 2, 4, 7)

Holotrichia sauteri: NOMURA, 1977, Tôhô-Gakuhô, (27), p. 92.

This new subspecies may be separated from the nominotypical subspecies by the following points:

Dorsal surface entirely black or blackish brown; tibiae blackish brown to dark reddish brown; antennae, femora and tarsi dark reddish brown to reddish brown. Ventral surface entirely black to dark blackish brown. Surface of body shining.

Pronotum very coarsely but strongly punctate. Each elytron with a sutural and four discal costae, 1st and 2nd costae very conspicuous and convex in basal halves, almost impunctate. Pygidium rather convex near base in male, gently convex in female, densely and finely punctate.

Length: 20.0–22.5 mm; breadth: 11.0–12.0 mm.

Holotype: ♂, Lutao Is., 6～11–VI–1989, J. Lo leg. Paratypes: 3 ♂♂, 14 ♀♀, same data as for the holotype; 1 ♂, 2 ♀♀, Lutao Is., 19–VII–1989, J. Lo leg.

Oxycetonia jucunda lutaoensis H. KOBAYASHI, subsp. nov.

[Japanese name: Rutao-koao-hanamuguri]

(Figs. 5, 9)

This new subspecies may be separated from *O. j. kotoensis* NOMURA, 1959, by the following points:

Dorsal surface blackish green to deep greenish black or deep green to green. Ventral surface deeper greenish black than in *O. j. kotoensis*, decorated with sublateral spots on 2nd to 5th segments.

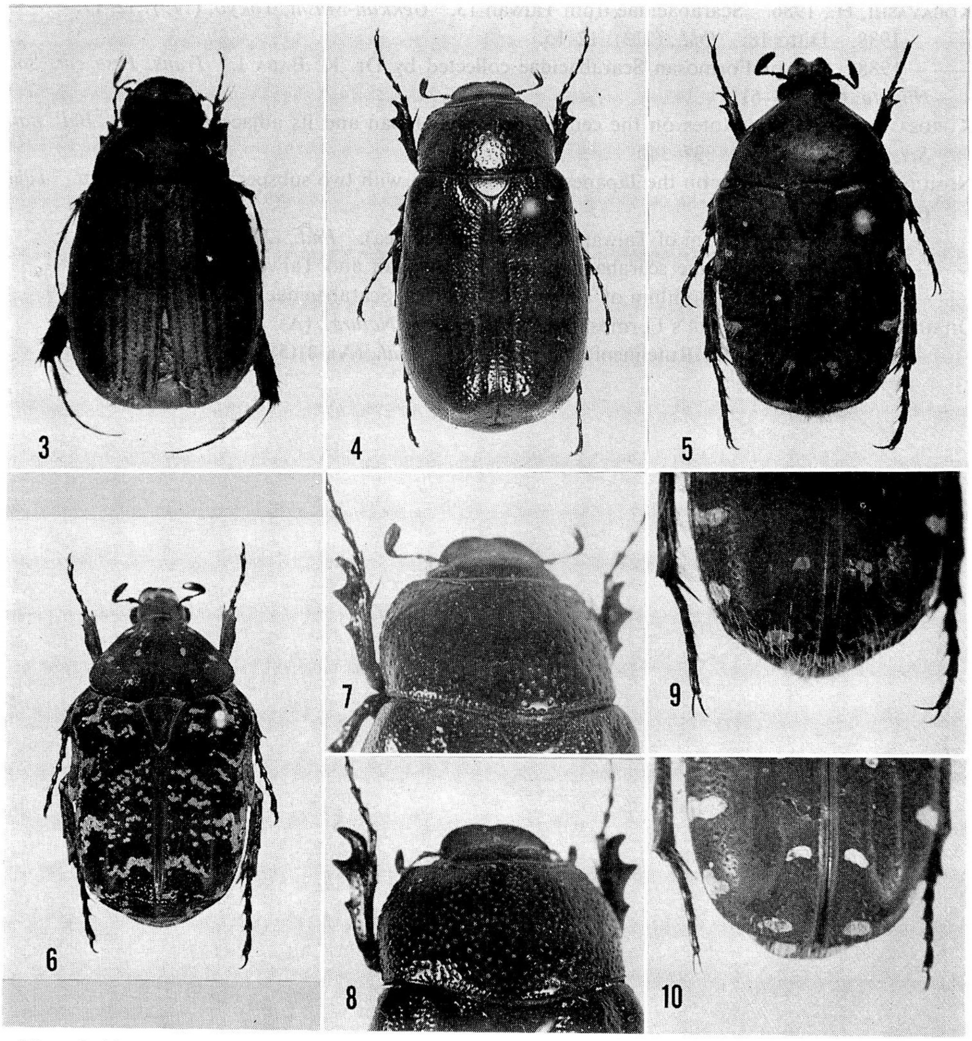
Sternal process broad, somewhat truncated, but gently rounded at apex. Elytra with rather long, somewhat conspicuous hairs on each side and in apical area.

Length: 15.0–18.0 mm; breadth: 8.0–10.0 mm.

Holotype: ♂, Lutao Is., 6～10–VI–1989, J. Lo leg. Paratypes: 12 ♂♂, 13 ♀♀, same data as for the holotype.

要　約

小林裕和：台湾・緑島のコガネムシ．—— 筆者は最近，台湾の緑島で採集されたコガネムシを検する機会に恵まれた．台湾本土のコガネムシについては，近年のいくつもの報告によりかなり詳しい記録が得られているものの，緑島においてはほとんどまとまった記録が残されていない．本稿では，1989年に採集された種類をリストアップするとともに，1種の新種ならびに2種の新亜種を記載した．この報文を書くにあたり，貴重な標本を提供して下さった粂久仁雄氏には，心から感謝申し上げる次第である．



Figs. 3–10. —— 3, *Maladera kumei* sp. nov.; 4, *Holotrichia sauteri lutaoensis* subsp. nov.; 5, *Oxycetonia jucunda lutaoensis* subsp. nov.; 6, *Protaetia culta multimaculata* Y. Kurosawa. —— 7, *Holotrichia sauteri lutaoensis* subsp. nov., punctuation of pronotum. —— 8, *Holotrichia sauteri sauteri* Moser, punctuation of pronotum. —— 9, *Oxycetonia jucunda lutaoensis* subsp. nov., apical part of elytra. —— 10, *Oxycetonia jucunda kotoensis* Nomura, apical part of elytra.

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Elytra, Tokyo, **18** (1): 89–92, May 15, 1990

A New Species of the Genus *Megapenthes* (Coleoptera, Elateridae) from the Ryukyu Islands

Hisayuki ARIMOTO

Nishikagaya 4–3–5–1211, Suminoe-ku, Osaka, 559 Japan

Abstract A new species of the elaterid genus *Megapenthes* is described and illustrated from the Ryukyu Islands, Southwest Japan. It is related to *M. opacus* CANDÈZE from the mainland.

In Japan, three species of the genus *Megapenthes* KIESENWETTER, 1863, *M. opacus* CANDÈZE, 1873, *M. shirozui* KISHII, 1959, and *M. kurosawai* W. SUZUKI, 1986, have been known up to the present. Recently, the author had an opportunity to examine two male specimens of this genus from the Ryukyu Islands. After a careful study, he came to the conclusion that it was new to science. He is going to describe it under the name of *M. azumai* sp. nov. in the present paper.

Before going further, the author wishes to express his hearty thanks to Dr. Hitoo ÔHIRA for his constant guidance, and Mr. Kôji AZUMA and Mr. Ryouji TOYOSHIMA for their kind offer of the invaluable specimens.

Megapenthes azumai sp. nov.

(Figs. 1–5)

Male. Length 7.5 mm; width 2.1 mm.

Body elongate, subparallel-sided, convex above and slightly shining. Body black, prothorax dark red except for black prosternal process, femora and tibiae dark brown, trochanters, tarsi and claws almost reddish brown. Dorsal surface clothed with black setae; ventral surface with golden yellow setae.

Head gently convex between eyes; clypeal margin well ridged and rounded at the middle; surface densely punctate, each puncture seemingly umbilical; apical segment of each maxillary palpus hatchet-like in shape and about 2.7 times as long as wide. Antennae short, not reaching posterior angles of pronotum; basal segment robust and oblong-ovate; second subglobular and slightly longer than wide; third subconical, slightly longer than second; second and third segments taken together about 0.8 times as long as fourth; fourth the longest and triangular; fourth to tenth strongly serrate; apicalmost subovate and 2.1 times as long as wide.

Prothorax about 1.2 times as long as the distance across posterior angles; disk strongly convex, densely punctate, each puncture seemingly umbilical; sides almost straight in dorsal view and slightly converging from tips of posterior angles to apical

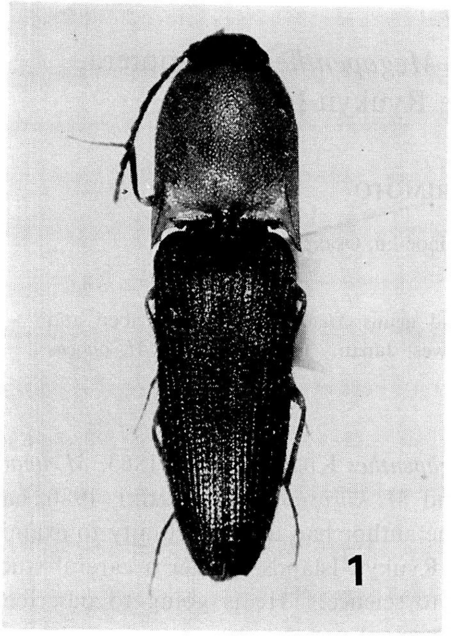


Fig. 1. *Megapenthes azumai* sp. nov., holotype, from Mt. Omoto-dake, Ishigaki-jima Is., Okinawa Prefecture.

fourth, then weakly and roundly narrowed anteriad; hind angles acutely projecting posteriad, each bearing a distinct carina above; propleuron shallowly and sparsely punctate; punctures on prosternum slightly sparser than those of pronotum; prosternal process elongate, projecting backwards, with undersurface sparsely and coarsely punctate. Scutellum elongate, gradually tapering posteriorly, flattened and subvertical, with surface finely punctate.

Elytra about 2.4 times as long as humeral width; sides subparallel in basal halves, then gradually tapering towards apices; apices clearly truncate though broadly emarginate; striae well defined, bearing deep and elongate punctures; intervals elevated and weakly granulated. Abdominal sternites bearing shallow and elongate punctures.

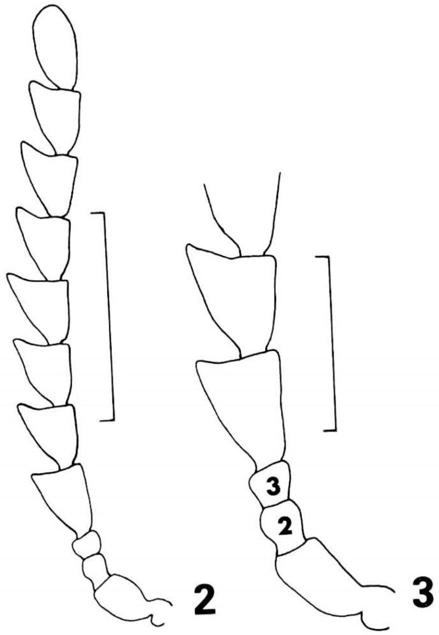
Legs slender, with tarsi and claws simple.

Aedeagus as illustrated (Figs. 4–5); median lobe slender, widest near base, then gradually narrowed towards apex; lateral lobes distinctly shorter than median lobe, each apical portion clearly expanded and furnished with many long setae.

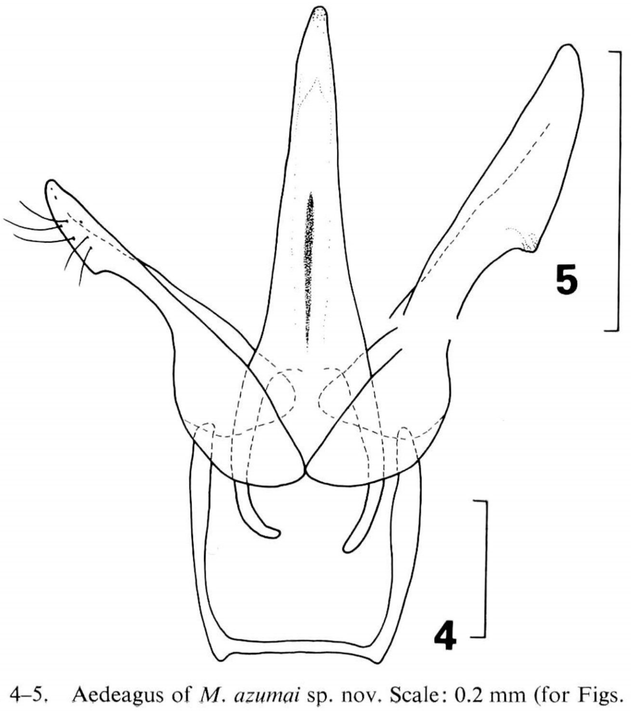
Female unknown.

Holotype: 1 ♂, Mt. Omoto-dake, Ishigaki-jima Is., Okinawa Pref., 1–V–1988, K. AZUMA leg. Paratype: 1 ♂, near Kanpira-no-taki, Iriomote-jima Is., Okinawa Pref., 1–V–1984, R. TOYOSHIMA leg. The holotype is deposited in the National Science Museum (Nat. Hist.), Tokyo.

This new species is allied to *M. opacus* CANDÈZE, 1873, from Japan, but can be distinguished from the latter by the following points: 1) The body is distinctly smaller. 2) The punctures on the pronotum are clearly larger. 3) The prosternum is dark red



Figs. 2–3. Right antenna of *M. azumai* sp. nov. Scales: 1 mm (for Fig. 2) and 0.5 mm (for Fig. 3).



Figs. 4–5. Aedeagus of *M. azumai* sp. nov. Scale: 0.2 mm (for Figs. 4–5).

except for the black prosternal process, while that of *M. opacus* is entirely black. 4) The antennae are more strongly serrate from the fourth segment.

要　　約

有本久之：琉球列島産*Megapenthes*属コメツキムシ科の1新種．——石垣島および西表島から採集された*Megapenthes*属の1新種，*M. azumai*を記載した．この種は，日本本土産のムネアカツヤケシコメツキ*M. opacus* Candèzeに似ているが，触角や点刻の形態，前胸腹板の色彩などの差異によって区別できる．

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Elytra, Tokyo, **18** (1): 93–100, May 15, 1990

Tenebrionidae of East Asia

(VI) On the Genus *Falsocamaria* Pic (Cnodalonini)

Kimio Masumoto

Laboratory of Entomology, Tokyo University of Agriculture,
1–1, Sakuragaoka 1-chôme, Setagaya-ku, Tokyo, 156 Japan

Abstract The genus *Falsocamaria* Pic, 1917, and its type species, *F. obscura* Pic, 1917, are redescribed. *F. nishimurai* sp. nov. is described, and five known species are transferred to *Falsocamaria*: *F. spectabilis* (Pascoe, 1860), comb. nov., *F. microdera* (Fairmaire, 1899), comb. nov., *F. fruhstorferi* (Fairmaire, 1903), comb. nov., *F. imperialis* (Fairmaire, 1903), comb. nov., *F. muelleri* (Kaszab, 1954), comb. nov. Key to the genera related to *Falsocamaria* is also given.

The genus *Falsocamaria* was erected by Pic (1917, p. 19) for *Falsocamaria obscura* from "Chine". Following it on the same page of the paper, the genus *Campsiomorpha* was erected by him for *Camaria lata* Pic, 1915. Since then, many species have been described under the genus *Campsiomorpha*, but the genus *Falsocamaria* has been almost neglected for a long time.

Gebien (1942) regarded the genus *Eucamaria*, erected by himself in 1917, as a junior synonym of *Campsiomorpha*. Kulzer (1954) omitted the genus *Falsocamaria* from his key for the reason that he did not know it and that Pic's diagnosis was very ambiguous.

Recently, I had an opportunity of examining the type specimen of *Falsocamaria obscura*, and recognized the true characteristics of the genus. In reality, *Eucamaria* is not a junior synonym of *Campsiomorpha* but that of *Falsocamaria*.

I will hereby redescribe the genus *Falsocamaria* and also its type species. I will describe a new species under this genus. Besides, I will transfer some named species hitherto regarded as members of *Campsiomorpha* to the genus *Falsocamaria*.

I wish to express my cordial thanks to Dr. Claude Girard, Muséum National d'Histoire Naturelle, Paris, Dr. Olaf Jäger, Staatliches Museum für Tierkunde, Dresden, and Dr. Ottó Merkl, Természettudományi Múzeum, who kindly permitted me to loan the type materials. I am deeply indebted to Dr. S.-I. Uéno, National Science Museum (Nat. Hist.), Tokyo, for giving me invaluable advice. Special thanks are also due to Mr. Masahiro Nishimura for offering materials and also to Mr. Kaoru Sakai for taking photographs inserted in this paper.

The holotype is preserved in the collection of the National Science Museum (Nat. Hist.), Tokyo.

Genus *Falsocamaria* PIC, 1917

Falsocamaria PIC, 1917, Mél. exot.-ent., (26), p. 19. Type species: *Falsocamaria obscura* PIC, 1917. —— GEBIEN, 1942, Mitt. münchn. ent. Ges., **32**, p. 772. —— KULZER, 1954, Ent. Arb. Mus. Frey, **5**, p. 59.

Original description. Articulis ultimis antennarum elongatis aut non dilatatis; thorace lateraliter minute marginato; elytris elongatis, apice inermibus; mesosterno antice subarcuato, læve, intuberculato.

Supplementary description. Body fairly large (27–34 mm), elongate, rather subparallel-sided, gently widened posteriorly, longitudinally convex above, brownish black, with dorsal surface strongly, metallically shining and glabrous, ventral surface more or less metallically shining and almost glabrous.

Head medium-sized, oblique against prothorax, mostly closely, irregularly punctate; clypeus transverse, shortly subparallel-sided, with apex often roundly emarginate; genae obtusely produced obliquely laterad; eyes medium-sized and rather transverse, with inner margins more or less sulcate. Mentum various in shape, raised antero-medially; gula mostly parabolic, impressed along lateral borders; terminal segment of maxillary palpus medium-sized and moderately dilated to apex. Antennae subfiliform, reaching basal portions of elytra, with a few apical segments gently flattened and feebly dilated to each apex.

Pronotum rather trapezoidal; apical margin nearly straight, rimmed laterally; base widely sinuous on each side, rather evidently rimmed; sides steeply declined to lateral margins, which are finely rimmed, hardly visible from above; front angles obtuse or rounded; hind angles subrectangular or feebly projected in dorsal view; disc moderately convex above, more or less punctate. Scutellum triangular or sublinguiform, often scattered with small punctures.

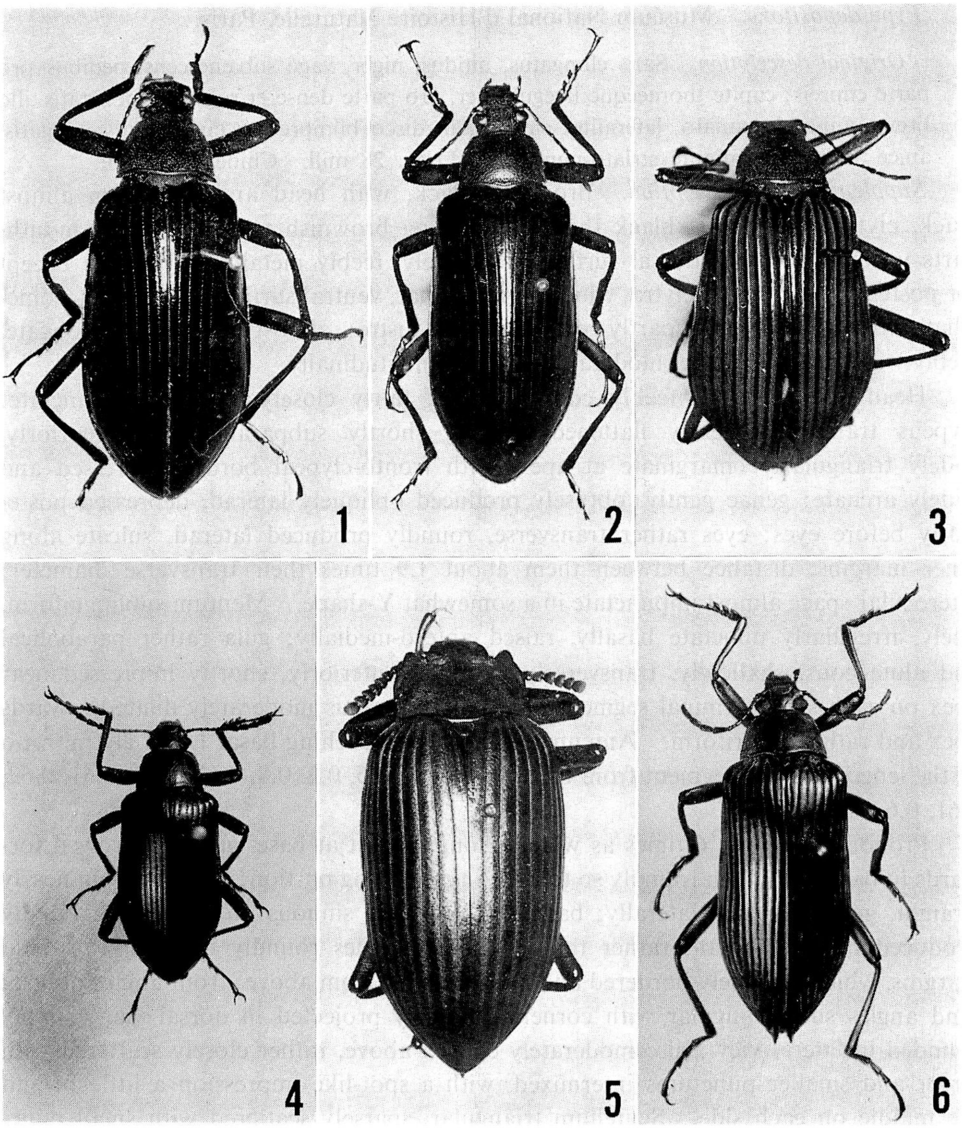
Elytra fairly elongate and longitudinally convex; disc mostly simply punctato-striate; intervals fairly wide, feebly convex, mostly glabrous; sides widest a little behind the middle, declined towards lateral margins, which are narrowly explanate and finely rimmed, visible from above; apices narrowly rounded and not acuminate.

Prosternum short, raised between coxae and grooved medially, apical margin more or less arcuate, prosternal process distinct; mesosternum short, depressed in anterior portion, which is in repose beneath prothorax, semicircularly, often triangularly, rather steeply, sometimes gently, declivous in middle; metasternum fairly broad, almost smooth though rather coriaceous laterally, with a median impression.

Abdomen fairly large, finely aciculate and punctate; male anal sternite without any characteristics, mostly very briefly truncate at apex.

Legs rather long, male protibia feebly thickened towards apex; male mesotibia distinctly thickened nearly in apical 1/2–1/3; tarsi more or less thickened to each apex; claws falciform and sharp.

Distribution. China; Indochina (North Vietnam; Northwest Thailand).



Figs. 1–6. —— 1. *Falsocamaria obscura* Pic, ♂ type. —— 2. *F. nishimurai* sp. nov., ♂ (holotype). —— 3. *Campsiomorpha lata* Pic, ♂. —— 4. *Cerocamptus andoi* Masumoto, ♂ (holotype). —— 5. *Borneocamaria laticornis* Waterhouse (*B. atra* Pic, ♂ (type)). —— 6. *Cerocamptus oharai* Masumoto, ♂ (holotype).

Falsocamaria obscura Pic, 1917

(Fig. 1)

Falsocamaria obscura Pic, 1917, Mél. exot.-ent., (26), p. 19. —— Gebien, 1942, Mitt. münchn. ent. Ges., **32**, p. 722. —— Kulzer, 1954, Ent. Arb. Mus. Frey, **5**, p. 59.

Type depository. Muséum National d'Histoire Naturelle, Paris.

Original description. Satis elongatus, nitidus, niger, vage subænescens, pedibus pro parte cupreis; capite thoraceque irregulariter, pro parte dense et ruguloso punctatis, illo breve, antice attenuato, lateraliter sinuato, in disco biimpresso; elytris satis elongatis, apice attenuatis, minute striato-punctatis. Long. 28 mill. Chine: Fouchou.

Supplementary description. Brownish black, with head and pronotum almost black, elytra also almost black though becoming brownish towards apices, mouthparts yellowish brown; dorsal surface moderately, feebly metallically shining except for posterior portions of elytra, which is rather mat, ventral surface moderately, somewhat vitreously shining, partly with coppery lustre; almost glabrous. Elongate, feebly widened posteriorly, moderately convex longitudinally.

Head suboctagonal, feebly convex above, fairly closely, irregularly punctate; clypeus transverse, gently flattened basally, shortly subparallel-sided anteriorly, widely triangularly emarginate at apex, with fronto-clypeal border impressed and widely arcuate; genae gently, obtusely produced obliquely laterad, depressed posteriorly before eyes; eyes rather transverse, roundly produced laterad, sulcate along inner margins, distance between them about 1.9 times their transverse diameter; interocular space almost impunctate in a somewhat Y-shape. Mentum sublinguiform, finely, irregularly punctate basally, raised antero-medially; gula rather parabolical and alutaceous, shallowly, transversely wrinkled anteriorly, shortly impressed near apex on each side; terminal segment of maxillary palpus moderately dilated towards apex and rather securiform. Antennae subfiliform, reaching basal 1/5 of elytra, ratio of the length of each segment from basal to apical: 0.5, 0.2, 0.8, 0.62, 0.61, 0.61, 0.62, 0.61, 0.6, 0.59, 1.0.

Pronotum about 1.6 times as wide as long, widest at base, gently narrowed forwards in basal half, then roundly so to apex in remaining portion; apical margin nearly straight, gently rimmed laterally; base gently, widely sinuous on each side, roundly produced in medial half, rather thickly rimmed; sides roundly declined to lateral margins, which are finely bordered and hardly visible from above; front angles obtuse; hind angles subrectangular with corners obliquely projected in dorsal view, simply rounded in lateral view; disc moderately convex above, rather closely scattered with larger and smaller punctures intermixed, with a spot-like impression a little behind the middle on each side. Scutellum triangular, sparsely scattered with small punctures, depressed antero-medially.

Elytra about twice as long as wide, 5.1 times length and 1.6 times width of pronotum; dorsum rather strongly convex, thickest at basal 1/3; disc finely punctato-striate, the punctures in striae small and closely set with each other, the striae becoming finer and the punctures also smaller towards apices; intervals wide, feebly convex anteriorly, becoming less convex towards apices, sparsely scattered with microscopic punctures, almost smooth and only sparsely, finely aciculate in basal half, microshagreened and rather densely aciculate in apical half; sides widest at apical 2/5, gently narrowed towards bases, roundly so towards apices, rather steeply inclined in basal portions, gradually so in middle and gently so in apical portions, with lateral margins narrowly explanate and finely rimmed, easily visible from above.

Prosternum rather short, fairly strongly convex above and grooved medially, apical margin gently, roundly emarginate, finely rimmed, prosternal process sublinguiform and fairly large; mesosternum very short, major anterior portion depressed and beneath porthorax, gradually, triangularly declivous in middle, with a somewhat V-shaped elevation behind the declivity; metasternum fairly broad and almost smooth, feebly coriaceous laterally, with a fine median groove extending from anterior margin to posterior one, rather distinctly impressed at posterior 1/4. Abdomen subscuteriform and fairly large, scattered with microscopic punctures, 3 basal sternites intricately aciculate; anal sternite very briefly truncate at apex.

Legs rather long; male protibia gently thickened towards apices; male mesotibia distinctly thickened in apical 3/5 of inner side; tarsi more or less thickened to each apex, ratio of the length of pro-, meso- and metatarsomeres: 0.8, 0.65, 0.53, 0.47, 2.28; 0.7, 0.78, 0.75, 0.5, 2.25; 1.72, 1.0, 0.5, 2.3; claws falciform and sharp.

Body length: ca. 28 mm.

Specimen examined. 1 ♂, Fouchou, Chine (MHNP).

Falsocamaria nishimurai sp. nov.

(Figs. 2, 7–8)

Blackish brown, with coppery, partly cyanescent lustre, elytra a little darker in colour, basal portions of antennae and gula reddish brown, mouth-parts yellowish brown; each surface almost glabrous except for tarsi beneath; head, pronotum and scutellum gently shining, partly sericeously so, elytra strongly metallically shining, ventral surface moderately, or partly feebly metallically shining. Elongate, feebly widened posteriorly, longitudinally convex above.

Head suboctagonal, gently elevated in middle and posterior portions, fairly closely, irregularly punctate; clypeus depressed against frons and flattened basally, gently narrowed to apex, which is semicircularly emarginate, projected forwards on each side, with fronto-clypeal border almost straight widely in the middle, bent forwards and reaching outer margin on each side; genae obtusely produced obliquely laterad, rather distinctly depressed in posterior portions before eyes; eyes somewhat transversely comma-shaped, roundly produced laterad, roundly inlaid in head, distinctly sulcate along inner margin of each eye, distance between them about twice transverse diameter in male, 2.2 times in female. Mentum sublinguiform, coriaceous, raised antero-medially; gula rather parabolic and convex, transversely wrinkled apically, feebly alutaceous posteriorly, briefly impressed apically on each side; terminal segment of maxillary palpus moderately dilated and subsecuriform. Antennae subfiliform, 4 apical segments gently flattened and feebly dilated to each apex, ratio of the length of each segment from basal to apical: 0.55, 0.2, 0.77, 0.65, 0.63, 0.63, 0.63, 0.75, 0.66, 0.64, 0.77.

Pronotum 1.5 times as wide as long, widest at base, gently narrowed forwards in basal half, then roundly so towards apex; apical margin rather narrow, gently rimmed though the rim is almost evanescent medially; base widely, gently sinuous on each side, feebly, roundly produced posteriad in medial 1/3, rather distinctly rimmed; sides fairly steeply declined to lateral margins, which are finely rimmed, hardly visible from above; front angles obtuse; hind angles feebly angulate and produced posteriad in dorsal view, subrectangular with rounded corners in lateral view; disc gently convex above, feebly micro-shagreened, finely punctate, the punctures becoming closer and coarser laterally. Scutellum sublinguiform, feebly micro-shagreened, sparsely scattered with small punctures.

Elytra about twice as long as wide, a little less than 5 times length and 1.8 times width of pronotum; dorsum fairly strongly, longitudinally convex, thickest at basal 1/3; disc clearly punctato-striate, the striae feebly micro-shagreened, the punctures in striae feebly oblong and rather closely set, the striae and punctures becoming shallower towards apices; intervals gently convex anteriorly, becoming lower towards apices, transversely micro-aciculate and scattered with microscopic punctures, with apical half of intervals micro-shagreened and more distinctly micro-aciculate; sides widest at apical 2/5, gently narrowed towards base, roundly so towards apices; humeri (basal portions of 7th and 8th intervals) fairly distinctly swollen; apices not acuminate but narrowly rounded.

Prosternum short, fairly strongly raised between coxae and gently grooved medially, apical margin widely, gently arcuate and rimmed; prosternal process subcordate and pointed at tip, feebly lobed on each side at bottom; mesosternum short, fairly steeply, semicircularly declivous in middle, posterior edge of the declivity fairly distinctly ridged; metasternum rather broad, shallowly, microscopically wrinkled throughout, somewhat coriaceous antero-laterally, with a fine median impression extending from hind margin nearly to basal one.

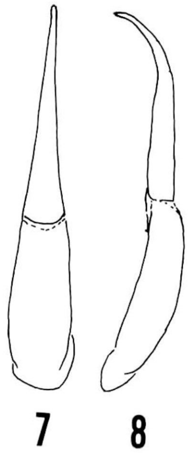
Abdomen rather long, finely punctate; 3 basal sternites and basal portion of 4th micro-shagreened and finely wrinkled; anal sternite without any peculiar characteristics in both sexes.

Legs fairly long; male protibia gently thickened towards apex; male mesotibia distinctly thickened in apical half of inner side; protarsi rather distinctly dilated to each apex, ratio of the length of pro-, meso- and metatarsomeres from basal to apical: 0.7, 0.65, 0.55, 0.45, 1.8; 0.83, 0.72, 0.66, 0.57, 1.97; 1.52, 1.09, 0.82, 2.04, respectively.

Body length: 27.5–29.5 mm.

Holotype. ♂, Wiang Papao, Chiang Rai Prov., Northwest Thailand, 16–VI–1988, native collector. Paratypes. 1 ex., 8–V–1988, 1 ex., 13–V–1988, 3 exs., 29–V–1988, 1 ex., 15–IX–1988, same locality and collector as for the holotype.

Notes. The prosternum of this new species is fairly steeply declivous in middle and the posterior edge of the declivity is rather distinctly ridged. Although these characteristics are, according to KULZER (1954), those of the genus *Cerocamptus* GEBIEN and some other genera, *e. g.*, *Camariomorpha* PIC and *Borneocamaria* PIC,



Figs. 7–8. *Falsocamaria nishimurai* sp. nov.; 7, male genitalia (dorsal view); 8, same (lateral view).

they do not seem to me to be important factors for classifying the genera. Except for it, the body structure of the present species clearly accords with that of the genus *Falsocamaria*.

List of the Known Species of the Genus *Falsocamaria* Pic

1) *Falsocamaria spectabilis* (Pascoe, 1860), comb. nov.
   Camaria spectabilis Pascoe, 1860, J. Ent., **1**, p. 52. North China.
2) *F. microdera* (Fairmaire, 1899), comb. nov.
   Camaria microdera Fairmaire, 1899, Annls. Soc. ent. Fr., **69**, p. 630. Chine.
3) *F. fruhstorferi* (Fairmaire, 1903), comb. nov.
   Camaria Fruhstorferi Fairmaire, 1903, Annls. Soc. ent. Belg., **47**, p. 15. Tonkin.
4) *F. imperialis* (Fairmaire, 1903), comb. nov.
   Camaria imperialis Fairmaire, 1903, Annls. Soc. ent. Belg., **47**, p. 15. Tonkin.
5) *F. obscura* Pic, 1917
   Falsocamaria obscura Pic, 1917, Mél. exot.-ent., (26), p. 19. Chine.
6) *F. muelleri* (Kaszab, 1954), comb. nov.
   Campsiomorpha imperialis ssp. *Mülleri* Kaszab, 1954, Annls. His.-nat. Mus. natn. hung., (s.n.), **5**, p. 259. Fukien.
7) *F. nishimurai* sp. nov.
   Northwest Thailand.

Key to the Genera of Large Flat Camarines from Southeast Asia

1 (10) Femora neither distinctly thickened apically, nor thinned in basal portions.
2 (9) Elytra with apices not acuminate.
3 (8) Pronotum with front angles never projected forwards.

4 (7) Pronotum with front angles obtuse or rounded.

5 (6) Body rather elongate, almost glabrous; elytra punctato-striate; male mesotibia distinctly thickened nearly in apical portion....... *Falsocamaria* PIC

6 (5) Body rather oblong, often distinctly widened posteriorly, more or less microshagreened and finely haired, especially so on body beneath; elytra distinctly grooved and then punctato-striate; male mesotibia never thickened in apical portion................................. *Campsiomorpha* PIC

7 (4) Pronotum with front angles distinctly subrectangular.... *Cerocamptus* GEBIEN

8 (3) Pronotum with front angles distinctly, fairly acutely projected forwards. .... *Borneocamaria* PIC

9 (2) Elytra with apices distinctly acuminate................. *Camariomorpha* PIC

10 (1) Femora distinctly thickened and rather clavate in apical 1/3, very thin in basal portions.................................. *Neocamaria* KULZER

要　　約

益本仁雄: *Falsocamaria* 属とその近縁属のゴミムシダマシについて. —— PIC (1917) によって設立された *Falsocamaria* 属は永いあいだ無視されてきた. 同時に設立された *Campsiomorpha* 属には, 多くの種が東南アジアから記載されている. 今般, Muséum National d'Histoire Naturelle, Paris の Dr. C. GIRARD のご好意で, *Falsocamaria* 属の基準種である *F. obscura* を検討する機会をえたが, 従来 *Campsiomorpha* 属とされていたものの多くは本属とすべきであることが分かった. *Falsocamaria* 属およびその基準種の再記載, *F. nishimurai* の新種記載, 属の変更, および近縁属の検索表をこの論文で与えた.

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Elytra, Tokyo, **18** (1): 101–104, May 15, 1990

The Genus *Ischalia* (Coleoptera, Pyrochroidae) from Taiwan[1]

Masataka Satô

Biological Laboratory, Nagoya Women's University, Nagoya, 468 Japan

Abstract Two species of the genus *Ischalia* from Taiwan are dealt with. One of them is newly described under the name of *I. uenoi*. The other species, *I. arisana* Kôno, is recorded from Mt. Hsüeh Shan.

So far as I am aware, only one species of the genus *Ischalia* has hitherto been known from Taiwan. It was described from Mt. Arisan (=Ali-shan Mts.) by Kôno (1935) on the basis of a single specimen. Since then, no additional record of this group of beetles has been made for a long time. The main reason for this seems to be in the difficulty of finding *Ischalia* species. However, we were fortunate in collecting two species of the genus at high altitude of Mt. Ho-huan Shan and Mt. Hsüeh Shan, during the zoological researches in Taiwan 1989 made by the National Science Museum, Tokyo, under the leadership of Dr. S.-I. Uéno. After a careful study, one of the two species proved to be new to science. It will be described in the following lines.

In the meantime, I had an opportunity to examine the type specimen of *Ischalia arisana* Kôno through the courtesy of Professor T. Kumata. Some additional data on this species will be briefly given on this occasion.

The abbreviations used in the present paper are as follows: TW – transverse diameter of each eye in dorsal aspect; W – greatest width of head including eyes; PW – greatest width of pronotum; PL – length of pronotum along median line; EW – greatest width of elytra; EL – greatest length of elytra.

I wish herewith to express my hearty thanks to Dr. Shun-Ichi Uéno and Dr. Mamoru Owada of the National Science Museum (Nat. Hist.), Tokyo, Professor Tosio Kumata of Hokkaido University, Professor Yau-I Chu and Mr. Chiun-chen Ker of National Taiwan University, and Dr. Shûhei Nomura of Kyushu University for their kindness in giving invaluable support to the present study.

Ischalia arisana Kôno, 1935

(Figs. 1–2, 4)

Ischalia arisana Kôno, 1935, Ins. matsum., **9**: 158; 1936, Fauna Nipponica, **10** (8–2): 38.

The type specimen of this species is said to be a male in the original description,

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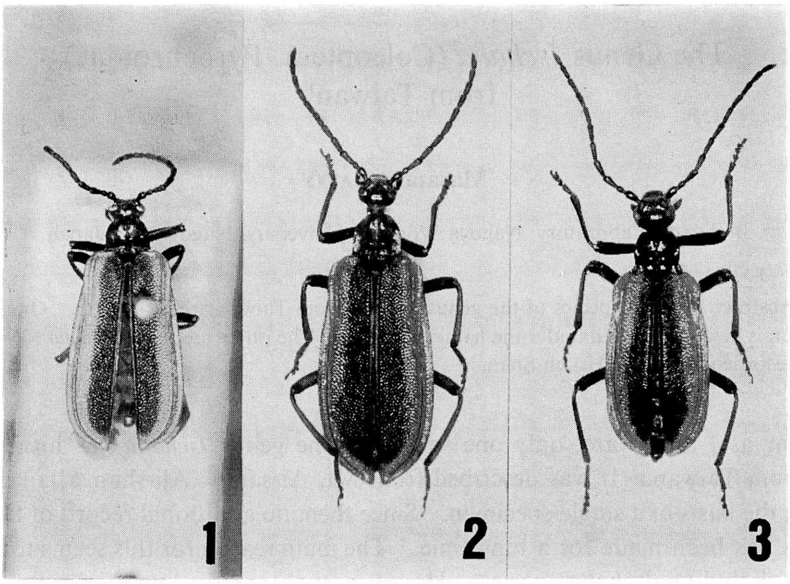


Figs. 1–3. Habitus. —— 1, *Ischalia arisana* KÔNO (holotype); 2, same species (from Mt. Hsüeh Shan); 3, *I. uenoi* M. SATÔ, sp. nov. (Mt. Ho-huan Shan).

but in reality, it is a female. It has the following ratios of respective parts of body: HW/TW 4.00, PW/HW 1.21, PW/PL 1.21, EW/PW 2.24, EL/EW 1.95; length 6.40 mm, breadth 2.53 mm.

The specimens obtained on Mt. Hsüeh Shan are almost identical with the type. Ratios of respecitve parts of body are as follows: HW/TW 4.29, PH/HW 1.27–1.40, PW/PL 1.27–1.40, EW/PW 2.10–2.21, EL/EW 1.93–1.95; length 7.53–7.67 mm, breadth 2.80–2.93 mm.

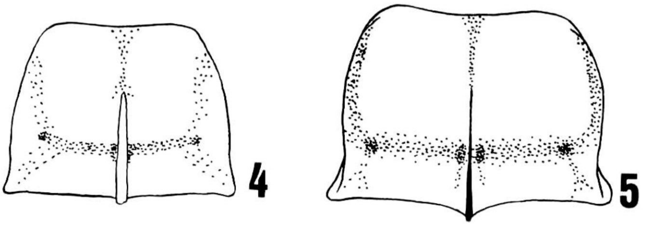
Specimens examined. 1 ♀ (holotype), Arisan, Formosa, 23∼24–IV–1928, S. MATSUMURA leg. (Ent. Lab., Hokkaido Univ.); 2 ♀♀, San-liu-chiu, 3,230 m alt., Mt. Hsüeh Shan, Tai-chung Hsien, Taiwan, 1–VII–1989, M. SATÔ leg. These specimens were found on small stones lying on thick moss-mats in the *Abies* forest.

Ischalia uenoi M. SATÔ, sp. nov.

(Figs. 3, 5)

Female. Body elongate, flat, somewhat shining and closely covered with pubescence, which is more erect and sparser on elytra than on the other parts. Colour almost brownish black, with brownish tarsi and mandibles, but the lateral sides of elytra are broadly reddish orange which becomes wider towards the base.

Head suboval, transversely concave behind clypeus and rather longitudinally so between antennal sockets, convex between eyes, and finely punctate on the surface; clypeus distinct and finely punctate; eyes lateral; EW/HW 5.00; antennae thick, fili-



Figs. 4–5. Pronotum. —— 4, *Ischalia arisana* KÔNO (holotype); 5, *I. uenoi* M. SATÔ, sp. nov.

form, and attaining to the middle of elytra.

Pronotum subtrapezoidal, irregularly concave posteriad, gibbous anteriad; PW/HW 1.27–1.33, PW/PL 1.36–1.43; lateral margins ridged and evenly rounded, but distinctly sinuate at a prebasal portion; front angles more or less rounded, hind angles triangularly prominent; disc finely punctate, provided with a median carina on basal two-thirds, with a mediolongitudinal impression on apical third and a pair of ovate impressions on lateral sides of the carina and at postero-lateral margins.

Elytra elongate, flat; EW/PW 1.89–1.90, EL/EW 1.84–1.89; shoulders rounded; sides gently arcuate, with rounded apices; surface strongly and contiguously punctate; each elytron provided with a prominent costa which extends from humerus to near apex and is evenly curved, though sinuate at basal fourth, and with a short indistinct carina at humerus. Wings reduced.

Length: 6.47 mm; breadth: 2.40–2.53 mm.

Male. Unknown.

Holotype: 1 ♀, Ho-huan Shan, 3,100 m alt., Hua-lien Hsien, Taiwan, 25–VI–1989, S.-I. UÉNO leg. Preserved in the collection of the National Science Museum (Nat. Hist.), Tokyo. Paratype: 1 ♀, same data as for the holotype. Preserved in the collection of the Biological Laboratory, Nagoya Women's University.

The present new species can be easily distinguished from *I. arisana* KÔNO by the following points: pronotum differently formed, long carina of elytron not reaching the apex, short humeral carina of elytron indistinct, and lateral areas of reddish orange on elytra broader at the base.

The collecting site of the present new species is a small gully without water near the top of the eastern peak of the mountain, which is sparsely covered with coniferous and broadleaved trees with thick undergrowth of subalpine bamboos. According to Dr. UÉNO, the type specimens were obtained by sifting fallen leaves accumulated on the bottom of the gully.

The present species is dedicated to Dr. S.-I. UÉNO, who is the excellent leader of our researches on high mountains of Taiwan and collected the remarkable new species.

要約

佐藤正孝: 台湾の高山性ヘリハネムシ. —— 台湾からこれまでに記録されたヘリハネムシは, 1935年に阿里山から記載されたアリサンヘリハネムシ *Ischalia arisana* KÔNO のただ1種で, その後はまったく報告がなかった. 1989年初夏に行われた高山帯の調査で, この属の甲虫が新たに合歓山と雪山から採集され, 分布域がいちじるしくひろがった. これらの資料を詳しく検討した結果, 雪山と阿里山のものは同種であろうと判定されたが, 合歓山のものだけは, 前胸背板の形状や上翅の隆条の様子が明らかに異なり, 別の新種であることがわかったので, ウエノヘリハネムシ ***Ischalia uenoi*** M. SATÔ と命名して, この論文に記載した. 基準標本の2個体はともに, 亜高山性混合林の下草として密生する, ニイタカヤダケの落ち葉のなかからふるいだされたものである. なお, アリサンヘリハネムシには立派な後翅があるのに対して, ウエノヘリハネムシでは後翅が退化している. 将来, 高山帯のより綿密な調査が実施されれば, さらに異なった飛べない種が, ほかの高山からも発見されることと期待される.

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Elytra, Tokyo, **18** (1): 105–107, May 15, 1990

A New Subspecies of Pyrochroid Beetle (Coleoptera, Pyrochroidae) from Okinawa-hontô, Southwest Japan

Masahiro SAITÔ

4–3–23–115, Mikunihigashi, Mikuni-chô, Sakai-gun, Fukui Pref., 913 Japan

Abstract *Pseudopyrochroa kazuoi teruhisai* M. SAITÔ, subsp. nov., is described from Okinawa-hontô, the Ryukyus, Japan.

Up to the present, no pyrochroid beetle have ever been recorded from Okinawa-hontô of the Ryukyu Islands. Recently I received from Mr. T. UENO some pyrochroid specimens collected in Okinawa-hontô. It seemed closely related to *Pseudopyrochroa kazuoi* N. OHBAYASHI (1968) described from Amami-Ôshima, but after comparing them with four paratopotypes of the latter loaned from Dr. N. OHBAYASHI, I found out certain features not met with in the Amami-Ôshima form. I am therefore going to describe the former as a new subspecies of *P. kazuoi.*

Before going further, I wish to express my special thanks to Prof. Dr. Hiroyuki SASAJI, Fukui University, for his advice and for reading this paper. Hearty thanks are also due to Mr. Teruhisa UENO, student of the University of the Ryukyus, for his offer of materials, and Dr. Nobuo OHBAYASHI, Kanagawa Horticultural Experiment Station, for the loan of the paratopotypes of the nominotypical subspecies.

Pseudopyrochroa kazuoi kazuoi N. OHBAYASHI

[Japanese name: Ryukyu-akahanemushi]

(Fig. 1 B)

Pseudopyrochroa kazuoi N. OHBAYASHI, 1968, Ent. Rev. Japan, **20**: 35–36 (Hatsuno, Amami-Ôshima Is.).

Distribution. Amami-Ôshima (Ryukyus, Japan).

Specimens examined. 1 ♂, Hatsuno, Amami-Ôshima, Ryukyus, Japan, 4–IV–1963, N. OHBAYASHI leg.; 1 ♀, same locality, 5–IV–1963, N. OHBAYASHI leg.; 1 ♂, same locality, 10–IV–1963, N. OHBAYASHI leg.; 1 ♀, same locality, 12–IV–1963, N. OHBAYASHI leg. (all paratopotypes).

Pseudopyrochroa kazuoi teruhisai M. SAITÔ, subsp. nov.

(Fig. 1 A)

This new subspecies is collected in Okinawa-hontô, and accords well with the

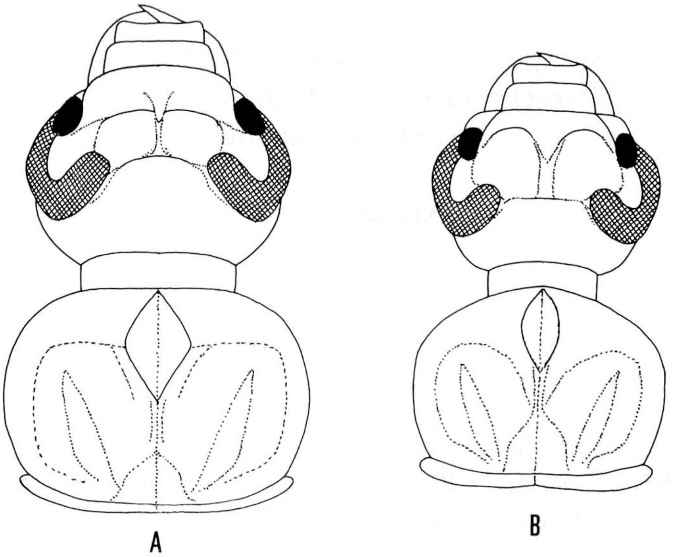

Fig. 1. Head and pronotum in male of *Pseudopyrochroa kazuoi* N. OHBAYASHI. —— A, *P. k. teruhisai* M. SAITÔ, subsp. nov.; B, *P. k. kazuoi* N. OHBAYASHI.

above subspecies with the exception of rather slight differences noted below. Besides, its locality is not so remote from that of the nominotypical race. The subspecific name is given after Mr. Teruhisa UENO who collected this new subspecies.

It is distinguished from the nominotypical subspecies by the following points: 1) All depressions on pronotum wider and shallower, and posterior area of pronotum weakly elevated on either side. 2) Basal border of pronotum narrower and rather weakly elevated upwards, and less depressed in middle. 3) Reddish long suberect hairs on elytra denser, so as to make elytral reddish shade deeper. 4) In male, a pair of depressions between antennal insertions slightly smaller and deeper, and the convexity between eyes elevated to the same level as eyes.

Body length: ♂ 10.5–13.8 mm (13.2 mm in the holotype); ♀ 11.6–14.3 mm.

Holotype. ♂, Yona, Kunigami, Okinawa-hontô, Ryukyus, Japan, 13–III–1988, T. UENO leg., preserved in the collection of the National Science Museum (Nat. Hist.), Tokyo. *Allotopotype.* ♀, the same data as for the holotype. *Paratopotypes.* 2 ♂♂ 3 ♀♀, the same data as for the holotype; 2 ♂♂ 1 ♀, the same locality as for the holotype, 14–III–1988, T. UENO leg.

Distribution. Okinawa-hontô (Ryukyus, Japan).

要　　約

斎藤昌弘：沖縄本島のアカハネムシ科1新亜種. —— 従来，沖縄本島からはアカハネムシ科甲虫は未知であったが，今回，奄美大島から知られていたリュウキュウアカハネムシ（新称）*Pseudopyrochroa kazuoi* N. OHBAYASHI の1新亜種として，*P. kazuoi teruhisai* M. SAITÔ, subsp. nov.

を記載した．

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Elytra, Tokyo, **18** (1): 107, May 15, 1990

台湾産カミキリムシ目録刊行される (論文紹介)

HAYASHI, M., S. NAKAMURA, H. MAKIHARA, A. SAITO & Y.-I. CHU: A list of cerambycid-beetles from Taiwan, (I), (II), (III). *Chin. J. Ent.*, **8**: 165–184 (1988); **9**: 87–136 (1989); **9**: 289–300 (1989). [著者の順は各回で異なる．]

アジアのなかで，日本を除けばカミキリムシ相のもっともよく調べられている地域が台湾であることは周知の事実であるが，その全体像については，少なくともこれまでは，MITONO (1940) や GRESSITT (1951) などの 40～50 年も前の論文しか参考にするものがなかった．また，一昨年の暮れに刊行された「彩色図鑑台湾的天牛 (余清金・奈良一共著)」には，既知種のうちの著名なものが図示され，採集品の同定には便利であったが，紹介書の域をでてはいない．

今回，台湾と日本の著者によって出版された本論文は，チェックリストであるから図説書とは性格が異なるが，分布疑問種以外のすべての既知種がひととおり掲載されているので，台湾産のカミキリムシを調べる際に必見の論文といえる．論文は，1988 年から 1989 年にわたり，3 回に分けて台湾の「中華昆蟲」誌上に掲載され，第 1 回目がホソカミキリ (5 種) およびニセクワガタカミキリ (2 種)，ノコギリカミキリ (21 種)，カンショハナカミキリ (2 種)，マルクビカミキリ (6 種)，クロカミキリ (1 種)，ハナカミキリ (96 種) の各亜科，第 2 回目がフトカミキリ亜科 (311 種)，第 3 回目がカミキリ亜科 (224 種) となっている (括弧内は各亜科に含まれる種数)．本リストには，これらの合計 668 種について種名および中国名が羅列されているが，原記載の出典がでているのはなぜか第 2 回目までで，第 3 回のカミキリ亜科についてだけはこれが省かれている．

私は，著者の一人の槇原寛氏を通じて，初期の段階の原稿を通読しているのだが，そのときにはカミキリ亜科にも原記載が記されていたので，この省略はおそらく出版事情によるものなのだろう．あわせて，印刷段階における校正が不十分だとしかいいようのない誤りが各所にみられるのは残念である．なお，著者らによれば，誤りを訂正し，原記載なども完全に収録した形で，今度は国内から再出版する計画があるという．

(新里達也)

Elytra, *Tokyo*, **18** (1): 108, May 15, 1990

日本に産するカネコメツキ類の属名

大平仁夫

Ōhira, H.: The Generic Name for the Japanese Elaterid Beetles of the So-called *Gambrinus*

日本に産するカネコメツキ類のうち，前胸腹側板の後外角部のところが湾曲して鉤状になったものに，従来 *Gambrinus* 属が用いられている．*Gambrinus* LeConte, 1853 属の基準種は，米国ジョージア州地方から記録された *Elater armus* Say, 1836 (=*Elater stigma* Herbst, 1806) (図 B) である．一方，本属によく似た属に *Limoniscus* 属がある．*Limoniscus* Reitter, 1905 属の基準種は，ヨーロッパ地方に分布する *Elater violaceus* Müller, 1821 (図 A) である．これら両属の類縁関係については，大平 (1954) が若干ふれている程度で，日本の種にどの属名を適用するべきかという問題については，深く検討されることなく今日にいたっているように思われる．

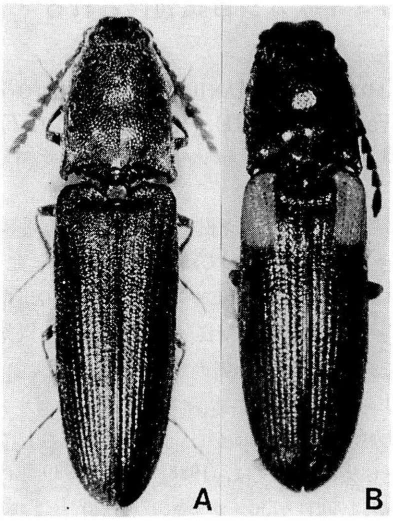

図 1. —— A. *Elater violaceus* Müller, 1821. —— B. *Elater armus* Say, 1836.

筆者は最近，これら両属の基準種の形態を検討することができたが，一般形態や，属の重要な特徴の一つである前胸腹側板の後外角部の形態は，たがいにきわめてよく類似している．しかし，*Gambrinus* 属の基準種の *Elater armus* の触角は細長く，第 4 節からの鋸歯も弱い．また，前胸背板の後角部背面には，隆起線をまったく欠いている．一方，*Limoniscus* 属の基準種の *Elater violaceus* の触角は短く，第 4 節からの鋸歯は顕著であるし，前胸背板の後角部背面には明瞭な隆起線を有する．

筆者は，これら両属がやや系統を異にする位置にあり，分類上はそれぞれを別属のものとして扱うのがよいと判断するものである．したがって，日本産の種には *Limoniscus* 属を用いるのがより正しいと考える．

文献

大平仁夫，1954. コメツキムシの属名について. *New Entomologist*, *Ueda*, **3** (2/3): 1–10.

Elytra, Tokyo, **18** (1): 109–128, May 15, 1990

Contribution towards the Knowledge of the Cerambycid Fauna (Coleoptera, Cerambycidae) of Thailand

I. Collection of the Subfamily Cerambycinae Made by the Lepidopterological Expeditions of the University of Osaka Prefecture to Thailand 1981, 1983 and 1985*

Tatsuya NIISATO

Bioindicator Co., Ltd., 17–4, Toyama 1-chôme,
Shinjuku-ku, Tokyo, 162 Japan

Abstract The collection of the subfamily Cerambycinae made by the Lepidopterological Expeditions of the University of Osaka Prefecture to Thailand 1981, 1983 and 1985, are dealt with. They are classified into twenty-seven species, of which *Falsobrium nigrum*, *Xylotrechus moriutii*, *Demonax kurokoi* and *Kurarua pallida* spp. nov. are newly described to science, and also *Oplatocera callidioides* WHITE, *Allotraeus (Nyshina) orientalis* (WHITE), comb. nov., *Ceresium granulosum* PIC, *Ibidionidum corbetti* GAHAN, *Thranius granulatus* PIC and *Rhaphuma binhensis maculicollis* GRESSITT et RONDON are firstly recorded from Thailand.

It was fifty years ago that GRESSITT's paper entitled "A collection of longicorn beetles from Thai" was published in 1941. In this paper, he recorded one hundred and twenty-five species from the country, and also noted that these records were "strikingly few," since more than one thousand species of cerambycids had theretofore been recorded from the neighbouring territories. In the past decade, however, several papers have been published as the results of various collecting trips to Thailand (cf. HAYASHI, 1984, 1986; HOLZSCHUH, 1989; NIISATO & KINUGASA, 1982; KEYZER & NIISATO, 1989), and our knowledge about the cerambycid fauna has become gradually enriched, even though it is not satisfactorily clarified as compared with those of the neighbouring countries.

In a series of papers under the present title, I am going to describe new genera and species, and to give new records and taxonomic notes on the cerambycid beetles of Thailand. In this first part, I will deal with the collection of the subfamily Cerambycinae deposited in the Entomological Laboratory, University of Osaka Prefecture, which was made by the lepidopterological expeditions of the same university in 1981, 1983 and 1985. The collection was classified into twenty-seven species, including four new species and six new records; they are *Falsobrium nigrum*, *Xylotrechus moriutii*, *Demonax kurokoi* and *Kurarua pallida* spp. nov., and *Oplatocera callidioides* WHITE,

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* This study is supported by a Grant-in-aid for Overseas Scientific Research (No. 61043057) from the Ministry of Education, Science and Culture, Japan, and a Grant-in-aid (No. 63043062) for Field Research of the Monbusho International Scientific Research Program, Japan.

Allotraeus (*Nyshina*) *orientalis* (WHITE), comb. nov., *Ceresium granulosum* PIC, *Ibidionidum corbetti* GAHAN, *Thranius granulatus* PIC and *Rhaphuma binhensis maculicollis* GRESSITT et RONDON. The collection including the type series is deposited in the Entomological Laboratory, University of Osaka Prefecture, Sakai, except for some duplicates which are in the private collection of mine.

Abbreviations Ratios of body parts: BL–length of body; HW–maximum width of head across eyes; FB–basal width of frons; FL–length of frons, measured along the mid-line; AL–length of antenna; PA–apical width of pronotum; PB–basal width of pronotum, PW–maximum width of pronotum; PL–length of pronotum, measured along the mid-line; EW–humeral width of elytra; EL–maximum length of elytra. Collectors (members of the expeditions): HK–Hiroshi KUROKO; SM–Sigeru MORIUTI; TS–Toshio SAITO; YA–Yutaka ARITA; YY–Yutaka YOSHIYASU.

Tribe Methiini

Xystrocera globosa (OLIVIER)

Cerambyx globosus OLIVIER, 1795, Ent., **4**, p. 27, pl. 12, fig. 81; type area: Orient.
Xystrocera globosa: SERVILLE, 1834, Annls. Soc. ent. Fr., **3**, p. 69. (Other literature omitted.)
Xystrocera globosa var. *mediovitticollis* BREUNING, 1957, Bull. Inst. fr. Afr. noire, **A19**, p. 1241; type areas: China, Japan and Tonkin.

Distribution. Japan, Korean Peninsula, China, Taiwan, Philippines, Indochinese Peninsula, Sulawesi, S Asia, Madagascar, Mauritius and Egypt.

Specimen examined. 1 male, Fang, Chiang Mai, 17–VII–1981, SM, YA & YY leg.

Oplatocera callidioides WHITE

(Fig. 1)

Oplatocera callidioides WHITE, 1853, Cat. Coleopt. Brit. Mus., **8**, p. 121, pl. 3, fig. 7; type area: N India. —— GAHAN, 1906, Fn. Brit. Ind., Coleopt., **1**, p. 108. —— GRESSITT & RONDON, 1970, Pacif. Ins. Mon., **24**, p. 52, fig. 10–f.

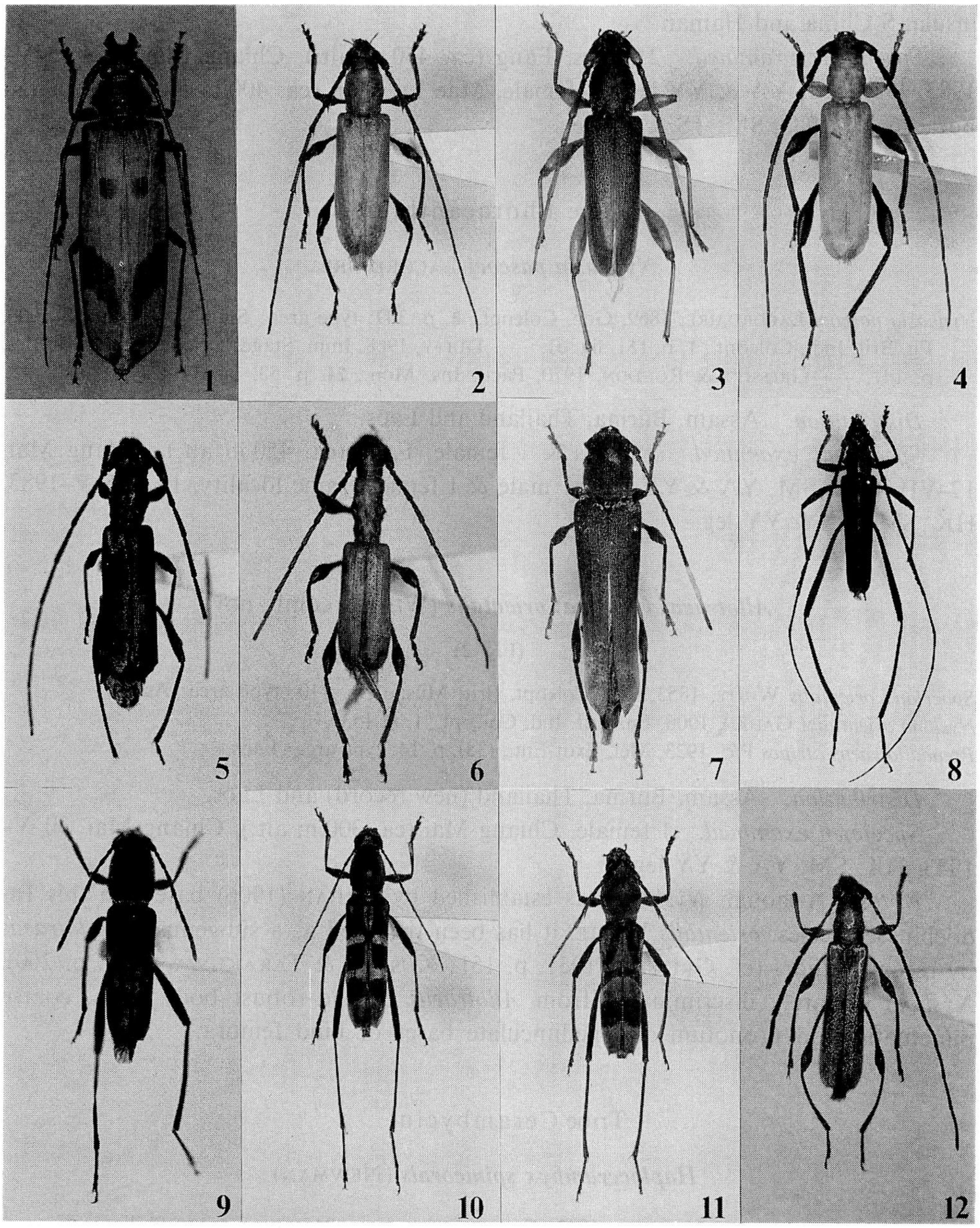
Distribution. N India, Thailand (new record) and Laos.

Specimens examined. 2 females, Doi Pakia (ca. 1,500 m alt.), Chiang Mai, 5–XI–1985, SM, TS & YA leg.

Gnatholea eburifera THOMSON

Gnatholea eburifera THOMSON, 1861, Class. Cerambyc., p. 375; type areas: Cambodia, Assam. —— GAHAN, 1906, Fn. Brit. Ind., Coleopt., **1**, p. 111. —— GRESSITT, 1951, Longicornia, Paris, **2**, p. 150. —— DUFFY, 1968, Imm. Stages Orient. Timber Beetles, p. 127, fig. 71. —— GRESSITT & RONDON, 1970, Pacif. Ins. Mon., **24**, p. 52, fig. 10–g.

Distribution. Assam, Burma, Thailand, Cambodia, Laos, Vietnam, Malay Pen-



Figs. 1–12. —— 1, *Oplatocera callidioides* White, female; 2, *Allotraeus* (*Nyshina*) *orientalis* (White), comb. nov., female; 3, *Ceresium granulosum* Pic, male; 4, *Comusia thailandica* Hayashi, male; 5, *Falsobrium nigrum* sp. nov., holotype female; 6, *Ibidionidum corbetti* Gahan, male; 7, *Chloridolum* (*Chloridolum*) *thailandicum* Hayashi, male; 8, *Thranius granulatus* Pic, female; 9, *Xylotrechus moriutii* sp. nov., holotype male; 10, *Rhaphuma binhensis maculicollis* Gressitt et Rondon, female; 11, *Demonax kurokoi* sp. nov, holotype female; 12, *Kurarua pallida* sp. nov., holotype male.

insula, S China and Hainan.

Specimens examined. 2 males, Fang (ca. 450 m alt.), Chiang Mai, 14∼15–V–1983, HK, SM, YA & YY leg.; 1 female, Mae La Mun (ca. 400 m alt.), Kanchanaburi, 26–XI–1985, SM, TS & YA leg.

Tribe Phoracanthini

Nyphasia pascoei LACORDAIRE

Nyphasia pascoei LACORDAIRE, 1869, Gen. Coleopt., **8**, p. 309; type area: Siam. —— GAHAN, 1906, Fn. Brit. Ind., Coleopt., **1**, p. 151, fig. 61. —— DUFFY, 1968, Imm. Stages Orient. Timber Beetles, p. 141. —— GRESSITT & RONDON, 1970, Pacif. Ins. Mon., **24**, p. 53, fig. 11–c.

Distribution. Assam, Burma, Thailand and Laos.

Specimens examined. 2 males & 1 female, Fang (ca. 450 m alt.), Chiang Mai, 17–VII–1981, SM, YA & YY leg.; 1 male & 1 female, same locality, 14∼15–V–1983, HK, SM, YA & YY leg.

Allotraeus (Nysina) orientalis (WHITE), comb. nov.

(Fig. 2)

Spaerion? *orientalis* WHITE, 1853, Cat. Coleopt. Brit. Mus., **7**, p. 110; type area: Assam.
Nyshina orientalis: GAHAN, 1906, Fn. Brit. Ind. Coleopt., **1**, p. 153.
Pseudallotraeus atripes PIC, 1923, Mél. Exot-Ent., (38), p. 14; type area: Laos.

Distribution. Assam, Burma, Thailand (new record) and Laos.

Specimen examined. 1 female, Chiang Mai (ca. 300 m alt.), Chiang Mai, 30–V–1983, HK, SM, YA & YY leg.

Notes. Although *Nyshina* was established by GAHAN (1906) based on this Indochinese species, *orientalis* WHITE, it has been regarded as a subgenus of *Allotraeus* by recent authors (cf. GRESSITT, 1951, p. 151; KUSAMA & TAKAKUWA, 1984, p. 260). *Nyshina* is barely discriminated from *Allotraeus* by the robust body form, coarse punctuation on pronotum and pedunculate bases of hind femora.

Tribe Cerambycini

Haplocerambyx spinicornis (NEWMAN)

Hammaticherus spinicornis NEWMAN, 1942, Entomologist, **1**, p. 245; type area: Philippines.
Cerambyx? *morosus* PASCOE, 1857, Trans. ent. Soc. Lond., (2), **4**, p. 92; type area: Borneo.
Haplocerambyx relictus PASCOE, 1866, Proc. zool. Soc. Lond., **1866**, p. 528; type area: Malaysia.
Haplocerambyx spinicornis: GAHAN, 1906, Fn. Brit. Ind., Coleopt., **1**, p. 131, fig. 50. —— DUFFY, 1968, Imm. Stages Orient. Timber Beetles, p. 89, figs. 44–49. —— GRESSITT & RONDON, 1970, Pacif. Ins. Mon., **24**, p. 70, fig. 14–a.

Distribution. Afghanistan, India, Burma, Thailand, Laos, Malay Peninsula, Borneo and Sunda Is.

Specimen examined. 1 female, Phliu (ca. 30 m), Chanthaburi, 4~7 & 9–X–1985, HK, SM, SS & YA leg.

Dialeges pauper PASCOE

Dialeges pauper PASCOE, 1856, Trans. ent. Soc. Lond., (2), **4**, p. 47, pl. 16, fig. 7; type area: Borneo. —— DUFFY, 1968, Imm. Stages Orient. Timber Beetles, p. 89, figs. 44–49. —— GRESSITT & RONDON, 1970, Pacif. Ins. Mon., **24**, p. 85, fig. 16–e.

Distribution. India, E Pakistan, Assam, Burma, Thailand, Laos, Vietnum, Malay Peninsula and Borneo.

Specimens examined. 1 male, Doi Suthep (ca. 600 m alt.), Chiang Mai, 20–V–1983, HK, SM, YA & YY leg.; 1 male & 1 female, Mae La Mun (ca. 400 m alt.), Kanchanaburi, 25~26–XI–1985, HK, SM, SS & YA leg.

Rhitidodera integra KOLBE

Rhitidodera integra KOLBE, 1886, Arch. Naturg., (A), **52** (1), p. 237; type area: China. —— GAHAN, 1806, Fn. Brit. Ind. Coleopt., **1**, p. 148. —— GRESSITT, 1942, Lingnan nat. Hist. Sci. & Mus. Spec. Publ., **1**, p. 25, fig. 16. —— DUFFY, 1968, Imm. Stages Orient. Timber Beetles, p. 113. —— GRESSITT & RONDON, 1970, Pacif. Ins. Mon., **24**, p. 88, fig. 17–a.

Distribution. Burma, Thailand, Laos, China and Korea.

Specimen examined. 1 female, Fang (ca. 450 m alt.), Chiang Mai, 15–X–1983, HK, SM, YA & YY leg.

Tribe Calldiopini

Gelonaetha hirta (FAIRMAIRE)

Stromatium hirtum FAIRMAIRE, 1850, Rev. Mag. Zool., (2), **2**, p. 60; type area: Tahiti.
Astrium obscurus SHARP, 1878, Trans. ent. Soc. Lond., **1878**, p. 204; type area: Hawaii.
Gelonaetha hirta: GAHAN, 1906, Fn. Brit. Ind. Coleopt., **1**, p. 155, fig. 62. —— GRESSITT, 1951, Longicornia, Paris, **2**, p. 154; 1956, Ins. Micronesia, **17**, p. 29, fig. 8–d. —— DUFFY, 1968, Imm. Stages Orient. Timber Beetles, p. 150. —— GRESSITT & RONDON, 1970, Pacif. Ins. Mon., **24**, p. 93, fig. 17–i.

Distribution. India, Thailand, Laos, Taiwan, Philippines, Micronesia, Polynesia, and West Indies.

Specimen examined. 1 male, Doi Inthanon (ca. 1,300 m alt.), Chiang Mai, 1, 3–XI–1985, SM, TS & YA leg.

Ceresium leucosticticum WHITE

Ceresium leucosticticum WHITE, 1855, Cat. Coleopt. Brit. Mus., **8**, p. 245, pl. 6, fig. 1; type area: East

Indies. —— GAHAN, 1906, Fn. Brit. Ind., Coleopt., 1, p. 159, fig. 64. —— DUFFY, 1968, Imm. Stages Orient. Timber Beetles, p. 141, fig. 81. —— GRESSITT & RONDON, 1970, Pacif. Ins. Mon., **24**, p. 96, fig. 18–e.

Distribution. Assum, Burma, Thailand, Laos, Hainan and Sumatra.

Specimen examined. 1 male, Fang (ca. 450 m alt.), Chiang Mai, 13–V–1983, HK, SM, YA & YY leg.

Ceresium granulosum PIC

(Fig. 3)

Ceresium granulosum PIC, 1931, Mél. Exot.-Ent., (57), p. 12; type area: Tonkin.

Distribution. Thailand (new record), Laos and Vietnum.

Specimen examined. 1 male, Phliu, Chanthaburi, 4–VI–1983, HK, SM, YA & YY leg.

Tribe Obriini

Comusia thailandica HAYASHI

(Fig. 4)

Comusia thailandica HAYASHI, 1986, Ent. Pap. pres. Kurosawa, Tokyo, p. 265; type locality: Doi Suthep, northern Thailand.

Distribution. Thailand.

Specimens examined. 3 males & 2 females, Fang (ca. 450 m alt.), Chiang Mai, 14～15–V–1983, HK, SM, YA & YY leg.

Falsobrium nigrum sp. nov.

(Figs. 5, 13)

Female. Large and elongate species of uniformly black coloration, with long and stout appendages. Colour black to blackish brown, slightly brownish in antennae, legs, posterior halves of elytra, and abodomen except for the reddish anal sternite, slightly shiny.

Head relatively large and strongly convex, HW/PA 1.13–1.25 (M 1.19); frons wide, FL/FW 0.5–0.53, separated by a deep median longitudinal groove, declined to anterolateral part, coarsely punctured; frontoclypeal suture distinct though shallow near the middle; clypeus large, declined to base, transversely truncate at apex; mandibles stout and rather long; genae bluntly spined ventrad in frontal view; vertex depressed anteriorly though the posterior half is moderately raised at middle; occiput strongly convex and densely rugged; eyes coarsely faceted, moderately prominent, separated by one-fifth the maximum width of head; antennae stout and rather long, AL/BL 1.30–1.33, densely pubescent though thinly so on scape and segment 2, pro-

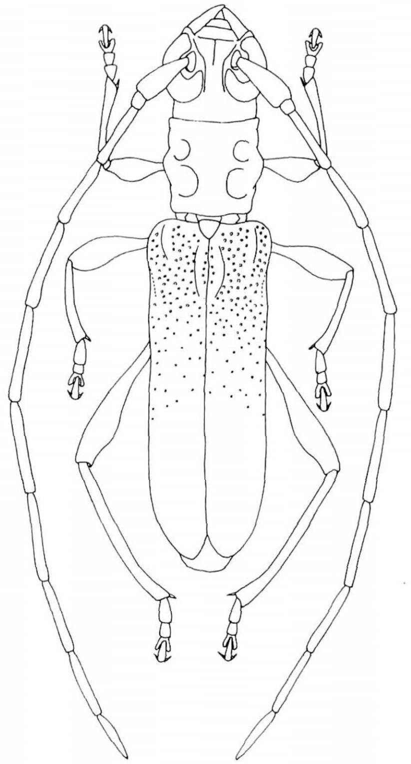


Fig. 13. *Falsobrium nigrum* sp. nov., holotype female.

vided with a very sparse row of pale erect hairs on the underside of segment 3, and also supplemented with similar hairs near the apices of segments 4 and 5, scape moderately swollen apicad and nearly equal in length to segment 3, segment 2 moderately reduced, segments 3 and 4 weakly thickened apically, segments 3–7 slightly increasing in length distally, terminal segment gently arcuate.

Pronotum rather long, hardly contracted to apex and base, PL/PA 1.19–1.21 (M 1.20), PL/PW 1.00, PL/EL 0.27–0.28 (M 0.27), PB/PA 1.08–1.00 (M 1.04); sides gently arcuate in front, moderately raised near middle, then weakly arcuate and almost parallel towards rounded basal angles; basal margin weakly bisinuate and narrowly marginate; disc weakly convex, provided with two pairs of weak lateral swellings on apical and basal third, which are oblong and slant medio-inwardly, and also with a longitudinal one along median line, clothed with dense silver pubescence and several long pale hairs, though the pubescence becomes very sparse or absent on the raising areas, provided with minute punctures though hardly visible from above. Scutellum moderate in size, rounded apically, glabrous.

Elytra long and almost parallel-sided, EL/EW 2.75–2.78 (M 2.77); sides weakly prominent at humeri, almost parallel to apical seventh, then arcuately narrowed to apices which are separately rounded; disc gently convex, weakly concave near humeri and near suture just behind scutellum, coarsely punctured near base though the punctures become smaller and sparser apically, and almost impunctured in apical halves, densely clothed with silvery yellow pubescence and a few pale erect hairs.

Prosternum transversely rugose throughout, strongly so along coxal cavities, clothed with silvery pubescence; prosternal process moderately dilated posteriad, with apical part weakly convex and rugged on the disc. Meso- and metathoraces minutely punctured and clothed with silvery pubescence, though minutely rugged on most of mesosternum. Abdomen minutely punctured; sternite 3 strongly convex near base, clothed with dense silvery pubescence and a few long erect hairs; sternite 4 with silvery pubescence, and provided with dense, reddish yellow bristles near the middle; sternite 5 strongly abbreviated and hardly visible from above in dried materials, with posterior margin arcuately emarginte and clothed with reddish yellow hairs; sternite 6 densely with silvery pubescence and long reddish hairs; anal sternite haired as in the preceding species, broadly rounded at apex .

Legs, especially the hind pair, long and thin, clothed with silvery yellow pubescence, with femora strongly compressed.

Body length: 8.9–10.2 mm.

Holotype and paratype, 2 females, Fang (ca. 450 m alt.), Chiang Mai, 14∼15–V–1983, HK, SM, YA & YY leg. Deposited in the collection of the Entomological Laboratory, University of Osaka Prefecture, Sakai.

Distribution. Thailand.

Notes. Falsobrium nigrum is a peculiar species, in being fairly large among the congeners, and reaching 10 mm in length in larger individuals, and in having the wholly blackish body instead of being paler with infuscate elytral apices.

The distributional range of *Falsobrium* has so far been known only from the base of the Indochinese Peninsula, i.e. *F. apicale* PIC (1926, p. 12) and *F. annulicorne* PIC (1935, p. 13) from Vietnam, and *F. minutum* PIC (1931, p. 12) from Vietnam and Laos. The occurrence of *F. nigrum* is the first record of the genus from the Thai territory.

Ibidionidum corbetti GAHAN

(Fig. 6)

Ibidionidum corbetti GAHAN, 1895, Annli. Mus. civ. Stor. nat. Genova, **34**, p. 15, pl. 1, fig. 3; type area: Burma; 1906, Fn. Brit. Ind., Coleopt., **1**, p. 168, fig. 66. —— GRESSITT & RONDON, 1970, Pacif. Ins. Mon., **24**, p. 109, fig. 20–i.

Distribution. Burma, Thailand (new record) and Laos.

Specimens examined. 1 male & 3 females, Fang (ca. 450 m alt.), Chiang Mai, 14∼17–V–1983, HK, SM, YA & YY leg.

Tribe Callichromini

Pachyteria dimidiata WESTWOOD

Pachyteria dimidiata WESTWOOD, 1848, Cab. Orient. Ent., p. 60, pl. 29, fig. 8; type area: Assam. —— GAHAN, 1906, Fn. Brit. Ind., Coleopt., **1**, p. 196. —— GRESSITT & RONDON, 1970, Pacif. Ins. Mon., **24**, p. 139, fig. 24–e. —— HAYASHI, 1967, Bull. Osaka Jonan Women's Jr. Coll., (2), p. 9; 1989, Ent. Pap. pres. Kurosawa, Tokyo, p. 269.

Distribution. Assam, Thailand and Laos.

Specimens examined. 1 female, Lungsuan, Chum Phon, 3–VIII–1981, HK, SM, YA & YY leg.; 9 males & 1 female, Kui Buri (seaside), Prachaup Khiri Khan, 14–X–1985, HK, SM, TS & YA leg.

Polyzonus saigonensis BATES

Polyzonus saigonensis BATES, 1879, Cist. ent., **2**, p. 413; type locality: Saigon. —— GAHAN, 1906, Fn. Brit. Ind., Coleopt., **1**, p. 214. —— HAYASHI, 1986, Ent. Pap. pres. Kurosawa, Tokyo, p. 269.
Polyzonus saigonensis var. *semiviridis* PIC, 1946, Échange, (62), p. 14; type area: Cochin-China.

Distribution. Burma, Thailand, Laos, Vietnum and Malaysia.

Specimens examined. 3 males, Fang (ca. 450 m alt.), Chiang Mai, 16∼17–VII–1981, HK, SM, YA & YY leg.

Anubis bipustulatus THOMSON

Anubis bipustulatus THOMSON, 1865, Syst. Ceramb., p. 569; type area: Laos. —— GAHAN, 1906, Fn. Brit. Ind., Coleopt., **1**, p. 121. —— GRESSITT & RONDON, 1970, Pacif. Ins. Mon., **24**, p. 165, fig. 28–e. —— HAYASHI, 1986, Ent. Pap. pres. Kurosawa, Tokyo, p. 269.
Anubis bipustulatus ab. *tripustulatus* PLAVILSTIKOV, 1927, Ent. Bl., **23**, p. 108; type area: Siam.
Anubis bipustulatus ab. *quadripustulatus* PLAVILSTIKOV, 1927, Ent. Bl., **23**, p. 108; type area: Siam.
Anubis viridis PIC, 1923, Mél. Exot.-Ent., (39), p. 9; type area: Laos.

Distribution. NE India, Burma, Thailand, Laos, Vietnum and Malaysia.

Specimen examined. 1 male, Doi Chang Khian (ca. 1,250 m alt.), Chiang Mai, 29–V–1983, HK, SM, YA & YY leg.

Chloridolum (Chloridolum) thailandicum HAYASHI

(Fig. 7)

Chloridolum thailandicum HAYASHI, 1984, Bull. Osaka Jonan Women's Jr. Coll., (27/28), p. 31, pl. 2, fig. 5; type locality: Doi Suthep, Thailand.

Distribution. Thailand.

Specimens examined. 1 male & 1 female, Doi Pui (ca. 1,300 m alt.), Chiang Mai, 30–V–1983, HK, SM, YA & YY leg.

Tribe Thraniini

Thranius granulatus PIC

(Fig. 8)

Thranius granulatus PIC, 1922, Mél. Exot.-Ent., (37), p. 11; type area: Laos.

Distribution. Thailand (new record) and Laos.

Specimens examined. 1 male, Doi Pui (ca. 1,300 m alt.), Chiang Mai, 30–V–1983, HK, SM, YA & YY leg.; 1 female, Doi Chian Khian (ca. 1,250 m alt.), Chiang Mai, 25–X–1985, SM, TS & YA leg.

Tribe Clytini

Xylotrechus buqueti (CASTELNAU-LAPORTE et GORY)

Clytus buqueti CASTELNAU-LAPORTE et GORY, 1841, Mon. Gen. *Clytus*, (86), pl. 16, fig. 99; type area: Java.

Xylotrechus buqueti: CHEVROLAT, 1863, Mém. Soc. Sci. Liège, **18**, p. 323. —— GAHAN, 1906, Fn. Brit. Ind., Coleopt., **1**, p. 243. —— GRESSITT, 1951, Longicornia, Paris, **2**, p. 242. —— DUFFY, 1968, Imm. Stages Orient. Timber Beetles, p. 207. —— GRESSITT & RONDON, 1970, Pacif. Ins. Mon., **24**, p. 200, fig. 33–d. —— HAYASHI, 1986, Ent. Pap. pres. Kurosawa, Tokyo, p. 269.

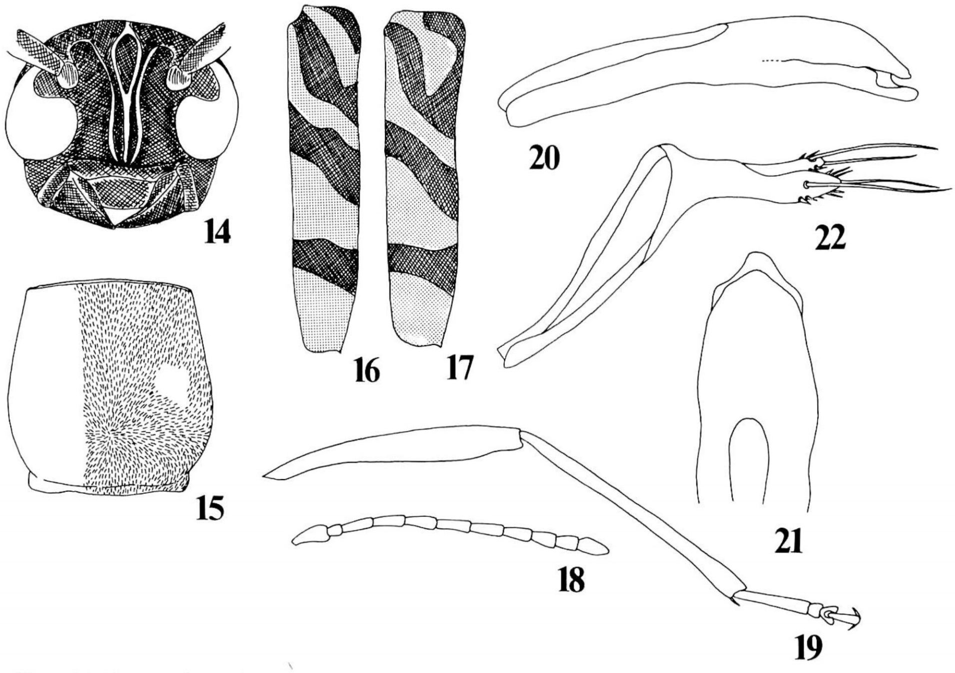
Distribution. India, Assam, Burma, Thailand, Laos and Java.

Specimen examined. 1 female, Fang (ca. 450 m alt.), Chiang Mai, 17–VII–1981, HK, SM, YA & YY leg.

Xylotrechus moriutii sp. nov.

(Figs. 9, 14–22)

Male. Small species of large fore body, with rather long antennae and legs. Colour black, brownish in antennae and legs; mouthparts dark reddish brown, except for black mandibular tips, and yellowish brown labrum, labium and maxillae. Body largely clothed with dense pale-gray pubescence and sparse pale erect hairs, though the former is whitish on head, and lateral and ventral sides of body; head densely with white pubescence on frons and around eyes; pronotum densely with pale-gray pubescence which is waived towards the middle of basal sixth, though the pubescence becomes sparser on a pair of lateral spots just before the middle (recognized as a pair of black maculations), and also supplemented with white pubescence at the sides of base; elytron densely with pale gray pubescence except for the four blackish brown pubescent maculations: 1) a humeral spot, 2) a sinuate band, starting from scutellum and narrowed at the middle of disc, then dilated towards external margin, from where the anterior portion extends to the humeral spot along the external margin, 3) an oblique band near middle, 4) a transverse band on apical eighth though slightly oblique and dilated externally; ventral surface densely with white pubescence, though



Figs. 14–22. *Xylotrechus moriutii* sp. nov.; 14, head in frontal view; 15, pronotum, showing the arrangement of pubescence; 16, right elytron in dorsal aspect, showing the maculations; 17, same in dorso-lateral view; 18, right antenna; 19, right hind leg; 20, median lobe in lateral view; 21, same in dorsal view, apical part; 22, tegmen in lateral view.

sparse or almost absent on the anterior part of mesosternum, middle of metasternum, metepisternum, and along median line of abdominal sternites; antennal segments densely with pale-gray pubescence, provided with a sparse row of brownish erect hairs on the undersides of segments 3–7; legs densely with pale-gray pubescence and pale erect hairs.

Head rather large, moderately convex, HW/PA 1.12, coarsely punctured, provided with three median longitudinal carinae, of which the median one starts from the anterior margin of frons and is furcate just before vertex and then conjoined at the anterior part of occiput, a pair of lateral sinuate ones run in parallel to the median one though diverging just before vertex; frons moderate, FL/FB 0.49, slightly dilated anteriorly; genae deep, about two-thirds the depth of lower eye-lobes; vertex moderately raised, with antennal cavities separated by a little more than two-fifths the maximum width of head; eyes large and moderately prominent; antenna relatively long, reaching the middle of elytron, AL/BL 0.56, fairly thickened apically; scape weakly swollen apically, a little longer than segment 3, segment 2 thickened apically and nearly twice as long as wide, segments 3 and 4 thickened apically, the latter being a little shorter than scape, segments 5–10 slightly widened and dilated apically, terminal segment bluntly pointed.

Pronotum large, feebly arcuate at sides, widest at basal third, with base feebly bisinuate; PL/PA 1.23, PL/PW 1.00, PL/EL 0.43, PB/PA 0.88; disc strongly convex, with vertical part in basal two-fifths, coarsely and closely punctured. Scutellum semicircular and moderate in size.

Elytra moderate in length, EL/EW 2.44, almost parallel-sided; sides with hardly expanded humeri, gently narrowed and sinuate to apical fifth, then arcuately convergent to apices which are sinuate and provided with briefly dentate external angles; disc moderately convex though distinctly so near base, concave near suture just behind scutellum and near humeri, densely provided with medium-sized punctures.

Prosternum with rather strongly convex base, densely provided with transverse furrows; prosternal process hardly convex between coxal cavities, then weakly dilated apically. Mesosternum and mesepisternum densely and rugosely punctured. Metasternum and abdomen moderately provided with small punctures at the sides.

Legs long and stout, with hind pair a little less than twice the length of elytra; hind tarsus with 1st segment a little more than twice the length of the following two segments combined.

Male genital organ very small and rather lightly sclerotized. Median lobe short and broad, about one-fifth the length of elytra, hardly arcuate, with large apical part; dorsal plate weakly arcuate in apical half though almost flattened in basal part in profile, weakly convex, with sides weakly arcuate, then sinuately convergent towards the broadly rounded apex; ventral plate moderately longer than dorsal one, with apical part bluntly pointed and reflexed in profile, and triangularly pointed to the rounded extremity in dorsal view; basal orifice moderately wide; median struts broad, and not so short, distinctly longer than the apical part. Tegmen long and slender, nearly equal in length to median lobe; parameres about seven-tenths the length of ring part, with paramere bluntly pointed in profile, and provided with two, very long setae and several short ones near apex.

Body length: 7.1 mm.

Holotype male, Khao Yai (ca. 800 m alt.), Nakhon Nayok, 11～19–VI–1985, SM, TS & YA leg. Deposited in the collection of the Entomological Laboratory, University of Osaka Prefecture, Sakai.

Distribution. Thailand.

Notes. Though markedly differing in the elytral maculation, this new species may have some relationship to *X. brixi* GRESSITT et RONDON (1970, p. 207, figs. 34–e) from Laos in view of the general conformation of body. This new species almost agrees with the original description of *X. brixi* in the structure of head except for the frontal carinae, in the shape of pronotum and elytra, and also in its long legs. *Xylotrechus moriutii* should be placed in the "*variegatus*-group" (nec GRESSITT & RONDON, 1970, p. 205) in view of the similarity mentioned above.

Perissus mutabilis mutabilis GAHAN

Perissus mutabilis GAHAN, 1895, Annli. Mus. civ. Stor. nat. Genova, **34**, p. 23; type area: Burma; 1906, Fn. Brit. Ind. Coleopt., **1**, p. 256. —— DUFFY, 1968, Imm. Stages Orient. Timber Beetles, p. 202. —— GRESSITT & RONDON, 1970, Pacif. Ins. Mon., **24**, p. 214, fig. 34–k.

Distribution. Sikkim, India, Burma, Thailand, Cambodia, Laos and Java.

Specimens examined. 2 males, Khao Yai (ca. 800 m alt.), Nakhon Nayok, 21–VI–1983, HK, SM, YA & YY leg.

Chlorophorus annularis (FABRICIUS)

Callidium annulare FABRICIUS, 1787, Mant. Ins., **1**, p. 156; type area: Siam.

Chlorophorus annularis: CHEVROLAT, 1863, Mém. Soc. Sci. Liège, **18**, p. 290. —— GRESSITT, 1951, Longicornia, Paris, **2**, p. 275. —— DUFFY, 1968, Imm. Stages Orient. Timber Beetles, p. 193, fig. 116. —— GRESSITT & RONDON, 1970, Pacif. Ins. Mon., **24**, p. 221, fig. 35–g. (Other literature omitted.)

Caloclytus annularis: GAHAN, 1906, Fn. Brit. Ind., Coleopt., **1**, p. 43.

Distribution. Ceylon, Burma, Thailand, Laos, Vietnum, Malaysia, Sunda Is., S China, NE China, Hainan, Taiwan and Japan.

Specimens examined. 2 females, Doi Inthanon, Chiang Mai, 27–VII–1981, HK, SM, YA & YY leg.; 1 female, Doi Pui (ca. 1,300 m alt.), Chiang Mai, 30–V–1983, HK, SM, YA & YY leg.; 1 female, Plew Chanthaburi, Chanthaburi, 13–VIII–1981, HK, SM, YA & YY leg.; 1 female, Kaosori Dao, Chanthaburi, 14–VIII–1981, HK, SM, YA & YY leg.; 1 female, Na Kha (ca. 250 m alt.), Ranong, 15–X–1985, HK, SM, SS & YA leg.

Rhaphuma binhensis maculicollis GRESSITT et RONDON

(Fig. 10)

Rhaphuma binhensis maculicollis GRESSITT et RONDON, 1970, Pacif. Ins. Mon., **24**, p. 237, fig. 37–e; type locality: Houayxay, Laos.

Distribution. Thailand (new record) and Laos.

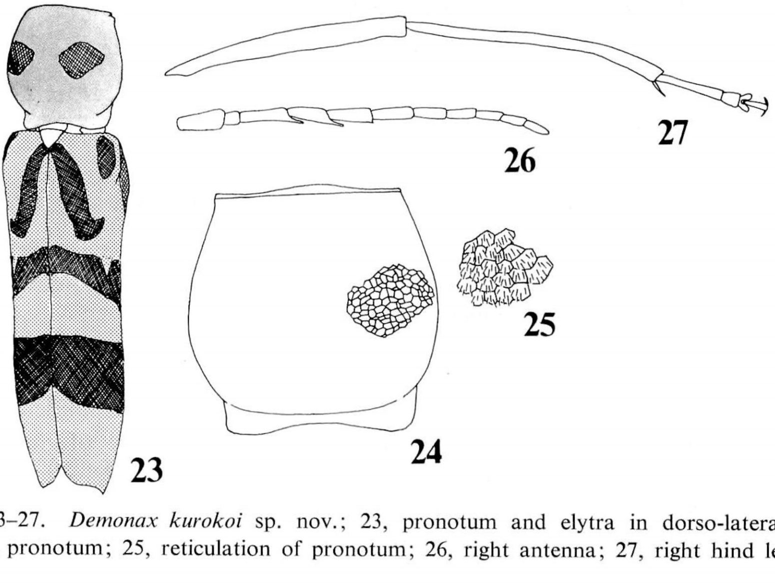
Specimen examined. 1 female, Doi Chang Khian (ca, 1,250 m alt.), Chiang Mai, 29–V–1983, HK, SM, YA & YY leg.

Demonax kurokoi sp. nov.

(Figs. 11, 23–27)

Female. Large species of subparallel habitus, with strongly expanded prothorax and stout antennae. Colour black, brownish at the apical part of mesosternum, abdominal sternum, trochanters and tarsal claws; mouthparts dark yellowish brown to reddish brown, with almost infuscate mandibles. Body largely clothed with dense yellowish gray pubescence, and partly with sparse pale erect hairs, though the former becomes slightly paler on antennae and legs; head rather densely with yellowish gray pubescence, and with pale erect hairs at the anterior part and on venter; pronotum densely with yellowish gray, extremely short pubescence, except for a pair of large, semi-rounded blackish brown pubescent spots at sides near the middle; scutellum densely with yellowish gray pubescence; elytron densely with yellowish gray pubescence, provided with the following pubescent maculations: 1) a vague brown maculation along external margin in basal two-ninths, 2) a moderate oblique band at a level between just behind base and basal three-tenths, extending from scutellum to middle of disc, then bent forwards for a short distance, 3) an obliquely transverse narrow band just before the middle, slightly dilated externally though triangularly notched on anterior margin at external one-third, 4) a transverse (though very slightly oblique) broad band at a level between apical five- and seven-ninths, moderately arcuate on posterior margin, sparsely scattered with grayish pubescence; ventral surface densely with gray pubescence, partly with white pubescence along lateral margin of mesosternum and posterior margin of metasternum, on mesepisternum and latero-posterior parts of abdominal sternite 3; antennal segments densely with gray pubescence, though the pubescence becomes paler on apical 7 segments, and also provided with a sparse row of pale erect hairs on undersides of segments 2–6 and supplemented with similar hairs at each apex of segments 7–10; legs densely with gray pubescence and pale erect hairs.

Head moderate, hardly convex, HW/PA 1.08, coarsely and rather densely punctured; frons rather narrow, FL/FB 0.85, arcuately and distinctly dilated anteriorly, provided with a narrow median longitudinal carina; genae deep, a little shallower than the depth of lower eye-lobes, gently convergent in frontal view; vertex weakly raised,



Figs. 23–27. *Demonax kurokoi* sp. nov.; 23, pronotum and elytra in dorso-lateral view; 24, pronotum; 25, reticulation of pronotum; 26, right antenna; 27, right hind leg.

with antennal cavities separated by one-fourth the maximum width of head; eyes moderate in size, weakly prominent. Antenna stout and rather short, reaching about apical third of elytron, AL/BL 0.75, fairly narrowed apicad; scape hardly swollen apicad, nearly as long as segment 3; segment 2 slightly thickened apicad and as long as wide; segments 3–5 thickened apicad, provided with a stout spine at each apex of segments 3–4, the spines reaching basal two-fifths of the following segment, and also supplemented with a very brief spine at apex of segment 5, segment 3 about one and one-seventh the length of segment 4, segments 5–11 gradually decreasing in length and wide distally though distinctly decreasing on segments 8–10, terminal segment bluntly pointed.

Pronotum large and strongly transverse, distinctly arcuate at sides, widest at middle, with base arcuately emarginate near the middle, and apex distinctly marginate and weakly sinuate; PL/PA 1.51, PL/PW 1.03, PL/EL 0.34, PB/PA 1.08; disc moderately convex, with vertical part in basal third, moderately reticulate throughout and provided with neither punctures nor granules. Scutellum triangular, rather large.

Elytra moderate in length and broad, EL/EW 2.78, almost parallel-sided; sides with simply rounded humeri, gently arcuately emarginate at a level between basal two- and four-ninths, and then gently arcuate to just before apices, and then moderately convergent to apices which are arcuately rounded and bear distinct external teeth; disc weakly convex though moderately so near base, depressed near suture just behind scutellum, obliquely and distinctly so near humeri, and rather densely provided with small punctures.

Prosternum moderately convex near base, irregularly provided with shallow transverse furrows near apex; prosternal process hardly convex, arcuately and moderately compressed between coxal cavities, then distinctly dilated apicad, with distinctly concave apical part. Mesosternum partly provided with coarse punctures on apical and lateral margins. Metasternum and abdomen minutely rugged, and intermixed with a few punctures.

Legs long and stout; hind pair one and one-tenth the length of elytra, with tibiae long and sinuate, a little longer than femur, 1st tarsal segment twice the length of the following two segments combined.

Body length: 14.2 mm.

Holotype female, Doi Chang Khian (ca. 1,250 m alt.), Chiang Mai, 21–VII–1981, HK, SM, YA & YY leg. Deposited in the collection of the Entomological Laboratory, University of Osaka Prefecture, Sakai.

Distribution. Thailand.

Notes. *Demonax kurokoi* may be a close relative of *D. alcanor* GRESSITT et RONDON (1970, p. 270, fig. 41–b), and had better be recognized as a sibling species of the latter. The two species almost agree with each other in such key characters as the arrangement of pubescence on pronotum and elytra, structure of antennae, shape and discal reticulation of pronotum, and long and sinuate hind tibia. *Demonax alcanor* was described on 43 specimens collected at 8 localities in Laos, and was also recorded by the same authors on a single specimen from Thailand deposited in the British Museum (Natural History). The present new species is discriminated from *D. alcanor* by the following features: antennal segment 3 nearly equal in length to scape, while in *D. alcanor* it is shorter than scape and segments 2 combined, with apical spine shorter, barely reaching basal two-fifths of the following segment; pronotum moderately reticulate throughout, without any granules on the anterior part as in *D. alcanor*, and also provided with larger infuscate spots at sides; elytron with an obliquely transverse band triangularly notched on anterior margin on external third, while in *D. alcanor* it is complete. This new species also differs from *D. mulio* PASCOE (1869, p. 635), recorded from Assam, Laos, the Malay Peninsula and Borneo, in having different arrangement of elytral black pubescence.

Tribe Cleomenini

Artimpaza argenteonotata PIC

Artimpanza [sic] *argenteonotata* PIC, 1922, Mél. Exot.-Ent., (27), p. 10; type area: Tonkin. —— GRESSITT & RONDON, 1970, Pacif. Ins. Mon., **24**, p. 291, fig. 45–b. —— HAYASHI, 1986, Ent. Pap. pres. Kurosawa, Tokyo, p. 269.

Distribution. Thailand, Laos and Vietnum.

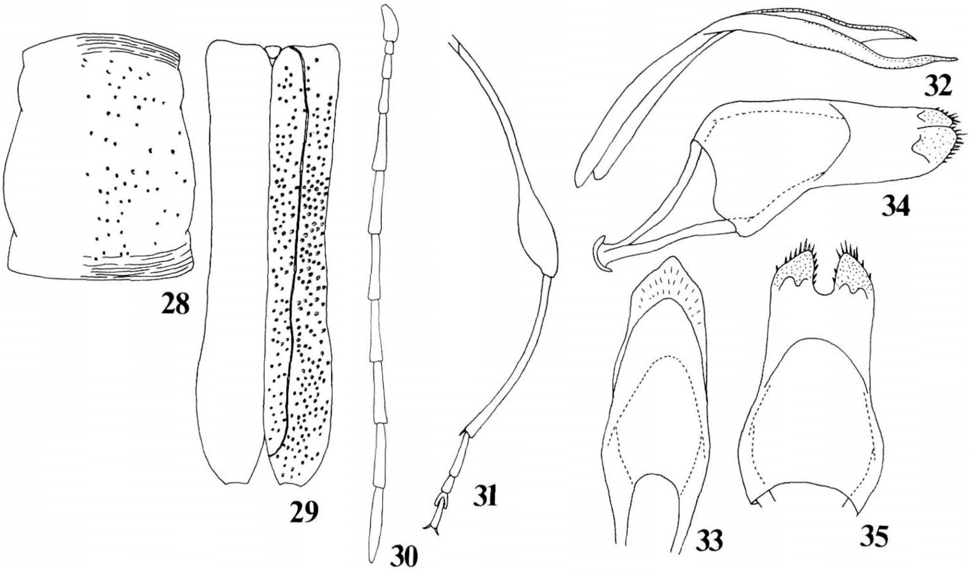
Specimens examined. 2 males & 1 female, Doi Suthep (ca. 600 m alt.), Chiang Mai, 20–V–1983, HK, SM, YA & YY leg.; 1 male, Khao Yai (ca. 800 m alt.), Nakhon Nayok, 14–VI–1983, HK, SM, YA & YY leg.

Kurarua pallida sp. nov.

(Figs. 12, 28–35)

Male. Relatively small slender species of subparallel habitus, with thin appendages. Colour yellowish orange though partially infuscate; shiny throughout; head black, with mouthparts dark reddish brown except for black mandibular tips and yellowish brown palpi; eyes yellowish; pronotum reddish orange though infuscate near apical margin; elytra entirely yellowish oragne; prosternum yellowish orange; mesothorax coloured as prosternum though dullish, with mesepimeron and posterior margin of mesepisternum blackish russet; metathorax and abdomen blackish russet; antennae with dark reddish brown scape, segments 2–4 reddish, segments 5–11 blackish russet and dullish; fore leg dark yellowish brown though more yellowish on femur; mid and hind legs blackish russet.

Head small, weakly expanded laterad, weakly convex, HW/PA 1.33, moderately provided with coarse punctures though the punctures become finer and denser on anterior part and sparser near vertex, clothed with dense short pale hairs and sparse long ones; frons moderate, FB/FL 2.09, gently narrowed anteriad, largely and rather strongly depressed at sides, provided with a median longitudinal groove extending



Figs. 28–35. *Kurarua pallida* sp. nov.; 28, pronotum; 29, elytra; 30, right antenna; 31, right hind leg; 32, median lobe in lateral view; 33, same in dorsal view, apical part; 34, tegmen in lateral view; 35, same in dorsal view, apical part.

from the middle to the anterior part of occiput; clypeus not so long, weakly arcuate on anterior margin; mandibles broad and moderately arcuate; genae rather shallow, a little more than a half the depth of lower eye-lobes; occiput moderately convex, with sides distinctly divergent posteriad; eyes small, hardly prominent laterad; antenna long and slender, AL/BL 1.31, distinctly thickened distad, thickened apicad in segments 3 and 4, compressed in 6 apical segments, clothed with irregular-sized yellow hairs on segments 1–4 and base of segment 5, and with minute pale pubescence on the following 6 segments, scape clavate and moderately arcuate, provided with a few coarse and shallow punctures, nearly equal in length to segment 4, segment 2 not much reduced, three-sevenths the length of segment 3, segment 3 seven-tenths the length of segment 4 and a little more than two-fifths the length of segment 5, segments 5–10 with each apex weakly serrate externally, segments 5–7 slightly increasing in length, segments 8–10 nearly equal in length to one another, terminal segment one and one-fourth the length of the preceding segment and blunt at apex.

Pronotum rather small and short, hardly convex, widest at basal four-ninths, not so contracted to base, PL/PA 1.52, PL/PW 1.2, PL/EL 0.26, PB/PA 1.21; apex strongly arcuate and base almost transversely truncate; sides moderately constricted at apical fourth and basal ninth, subparallel in front, moderately rounded to apical fourth, distinctly arcuate at a level between apical fourth and basal eight-ninths, then weakly arcuate to basal angles; disc gently convex though flattened near the middle, weakly impressed at sides of apical two-ninths, very sparsely punctured, clothed with long yellowish hairs. Scutellum very small, with sides weakly dilated posteriorly, apical margin rounded.

Elytra long and slender, rather feebly ample posteriad, narrowest just behind basal third, barely exposing the sides of metathorax, EL/EW 3.57; sides with humeri weakly projected forwards, weakly and arcuately emarginate to apical sixth, each apex weakly sinuate; disc flattened throughout, each provided with a weak median longitudinal costa which extends from base to apical sixth, then arcuately bends to sutural margin, rather densely provided with large punctures, moderately clothed with yellowish hairs, though the hairs become denser along sutural margin.

Prosternum not so convex, provided with shallow transverse furrows, clothed with long pale hairs, with prosternal process moderate in width, hardly convex. Mesosternum rugose though coarsely punctured at sides, haired as in prosternum, with mesosternal process wide and distinctly concave at apical margin. Metathorax provided with large though shallow punctures on metepisternum and sides of metasternum. Abdomen elongate, parallel-sided in basal two segments, densely provided with irregular-sized punctures, and sparsely clothed with pale hairs.

Legs long and thin, rather densely clothed with pale hairs; hind pair with femur very slender and swollen in apical third, tibia distinctly arcuate.

Male genital organ small though heavily sclerotized. Median lobe very small, a little more than one-fifth the length of elytra, distinctly arcuate in profile, strongly depressed and sinuate in apical part; dorsal plate gradually narrowed to rounded apex, moderately sinuate on dorsal margin; ventral plate distinctly longer than the dorsal one, with subtriangular apical part, strongly sinuate and narrowly pointed to apex in lateral aspect; median struts moderate in length, not so broad. Tegmen nearly equal in length to median lobe, broad and strongly convex; parameres broad, almost parallel-sided in basal halves, dehiscent in apical two-fifths, with each lobe strongly thickened, moderately provided with short setae near apical margin.

Body length: 6.5 mm.

Holotype male, Doi Suthep (ca. 600 m alt.), 20–V–1983, HK, SM, YA & YY leg. Deposited in the collection of the Entomological Laboratory, University of Osaka Prefecture, Sakai.

Distribution. Thailand.

Notes. In general appearance and especially in coloration, this new species is closely similar to *K. bicolorata* GRESSITT et RONDON (1970, p. 303, fig. 46–f) described from Laos, though the latter has distinctly ampler elytra and shorter antennae which do not reach the apices of elytra even in male. Jugding from the conformation of pro- and metathoraces, *K. pallida* is not so closely related to the Laotian species. Its prothorax is hardly contracted to base, and its sides are distinctly constricted near the apex and base. Besides, its pro- and mesosternal processes are distinctly narrower than in *K. bicolorata*.

Acknowledgements

I wish to express my hearty thanks to Dr. Sigeru MORIUTI of the Laboratory of Entomology, University of Osaka Prefecture, for his kindness in my examination of the collection of cerambycid beetles deposited in his laboratory, and to Dr. Shun-Ichi UÉNO of the National Science Museum (Nat. Hist.), Tokyo, for his constant guidance and reading through the manuscript of this paper.

要　約

新里達也：タイのカミキリムシ相に関する知見．I．大阪府立大学鱗翅類学術調査 (1981, 1983, 1985年) による採集品．——タイのカミキリムシ科甲虫に関する知見は，インドシナの近隣諸国に比べて貧弱であり，調査が比較的進みつつある過去10年ほどの間でさえも，わずかに断片的な研究成果が発表されているにすぎない．タイのカミキリムシへの関心は，日本国内のアマチュア昆虫家のなかでは高く，毎年多くの採集者が同国を訪れ，きわめて多数の標本が集積されてきたが，これらのほとんどは死蔵されているのが現状である．

本連載は，近年得られてきた採集標本の整理発表による，同国のカミキリムシ相の解明を目的としている．今回は，大阪府立大学鱗翅類学術調査 (1981, 1983, 1985年実施) によって得られたカミキリ亜科の採集標本の，分類整理を行なった結果を報告する．収集標本は27種に分類され，このなかには4新種および6新記録種が含まれていた．今回記載命名した種は次のとおりである．

1) *Falsobrium nigrum* sp. nov.—体は全体黒色で大きく，本属としてはきわめて特異な種である．*Falsobrium* はインドシナ地域に固有で，これまでに3種がベトナムとラオスから記録されているが，いずれも体の大部分が明黄色の種であり，本種に近縁なものはない．

2) *Xylotrechus moriutii* sp. nov.—ラオスから記載された *X. brixi* GRESSITT et RONDON に形態上はきわめてよく類似し，GRESSITT & RONDON (1970) による“*variegatus*-group”に含まれることは疑いがない．なお，*X. brixi* とは，上翅の微毛帯の形が異なるほかに，前頭縦隆線の状態により区別できる．

3) *Demonax kurokoi* sp. nov.—ラオスから記載された *D. alcanor* GRESSITT et RONDON に形態および前胸と上翅の微毛パタンが酷似し，この種の姉妹種とも考えられる．本種は，触角第3節が柄節と同長 (*D. alcanor* では柄節と梗節の和より短い) であることや，*D. alcanor* のように前胸背板前方に彫粒をもたないなどの点で区別できる．

4) *Kurarua pallida* sp. nov.—ラオスから記載された *K. bicolorata* GRESSITT et RONDON に色彩パタンが酷似するが，触角が体長をはるかに越えることや，前胸背板は前後縁付近で顕著にくびれ，前・中胸腹板突起は狭く，上翅は後方に向けて弱く広がるなどの特徴から容易に識別できる．おそらく，真の類縁関係はそれほど近くないものと思われる．

一方，タイより新記録となるのは，*Oplatocera callidioides* WHITE および *Allotraeus* (*Nyshina*) *orientalis* (WHITE), comb. nov., *Ceresium granulosum* PIC, *Ibidionidum corbetti* GAHAN, *Thranius granulatus* PIC, *Rhaphuma binhensis maculicollis* GRESSITT et RONDON である．このうち *Allotraeus orientalis* については，*Nyshina* を *Allotraeus* の亜属として扱ったことで属の変更を行なった．

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Notes on the Lepturine Genus *Pidonia* (Coleoptera, Cerambycidae) from East Asia

II. Redescription of *Pidonia orientalis* MATSUSHITA, 1933, and Some Notes on its Vertical Distribution and Habits

Mikio KUBOKI

47–15, Ohara 1-chome, Setagaya-ku, Tokyo, 156 Japan

Abstract *Pidonia orientalis* MATSUSHITA, 1933, is redescribed on the basis of the type specimen and newly collected material from the vicinities of the type locality. Its vertical distribution is noted with reference to the vertical vegetational zonation. Brief biological notes are given.

Pidonia orientalis MATSUSHITA, 1933, was originally described on the basis of the specimen collected from Kamikôchi, Nagano Prefecture. However, the taxonomic status of *orientalis* has been treated differently by various authors. It was regarded as a synonym of *P. bouvieri* PIC by MITONO (1940). On the other hand, it was regarded by TAMANUKI (1942) and HAYASHI (1968) as an infraspecific variation of *P. maculithorax*.

Recently, through the courtesy of Dr. M. SUWA and Mr. M. OHARA of the Entomological Institute, Faculty of Agriculture, Hokkaido University, Sapporo, I was able to examine the type specimen of *P. orientalis* MATSUSHITA, 1933, which is preserved in the collection of the Entomological Institute, Faculty of Agriculture, Hokkaido University. Further, I examined a number of specimens which were collected in various parts of Japan. After my study on these materials, I have come to the conclusion that *orientalis* is a good species.

In the present paper, I will redescribe *P. orientalis* and will also give some notes on its vertical distribution and habits.

Before going further, I wish to express my hearty thanks to Messrs. H. NAKABAYASHI, K. SUZUKI, S. TAKECHI and N. YOSHIZAWA who gave me opportunity to study on the interesting material. I am also indebted to Dr. M. SUWA and Mr. M. OHARA of the Entomological Institute, Faculty of Agriculture, Hokkaido University, for their kind help during the course of this study.

Pidonia* (*Pidonia*) *orientalis MATSUSHITA, 1933

[Japanese name: Kakumune-hime-hanakamikiri]

(Figs. 1, 3–10)

Pidonia orientalis MATSUSHITA, 1933, Ins. matsum., **7**: 103, fig. 1 (♀, Kamikôchi, 2. VIII. 1931).

Body relatively large, elongate and furnished with pale fulvous pubescence.

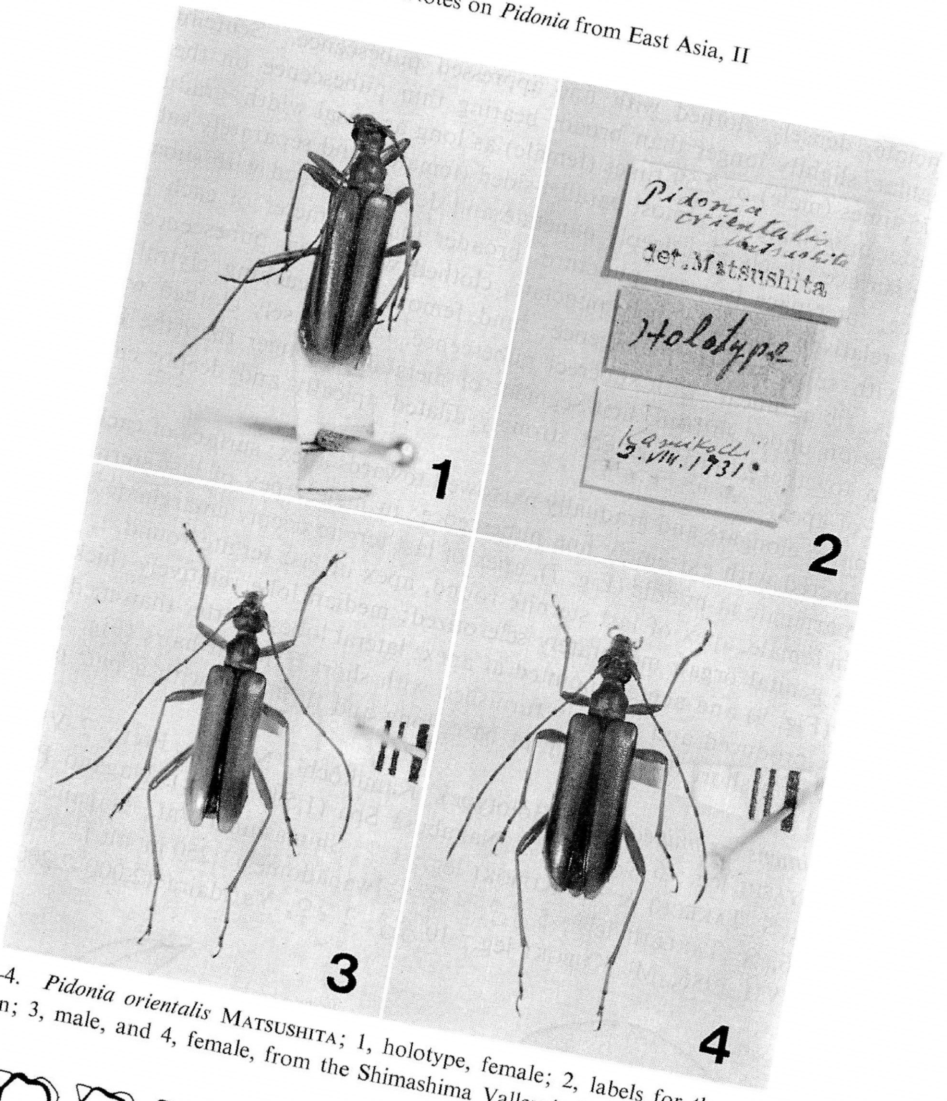
Length: 11.5–7.9 mm (male), 11.7–8.2 mm (female); breadth: 2.6–1.9 mm (male), 2.9–2.4 mm (female).

Color. Body fulvous to black; head fulvous, sometimes dark brown; mouthparts yellowish fulvous except for reddish brown apex of each mandible; eyes black; antennae entirely fulvous, sometimes third and following segments faintly infuscated at their apices; prothorax fulvous, sometimes dark brown. Scutellum fulvous; coxae, trochanters, femora, tibiae and tarsi fulvous; claws reddish brown. Elytra yellowish fulvous with black markings, which are enlarged in female. Ventral surface:— head, thorax and abdomen fulvous in both sexes, sometimes first to fourth sternites dark brown to black in male, rarely meso- and metasterna darkened in male.

Elytral markings (Fig. 5):— in male, sutural marking, narrowly present, combining with basal marking, rarely entirely lacking, basal marking narrowly present, prolonging towards shoulder, latero-basal, latero-median and latero-posterior markings narrowly present, sometimes latero-median and latero-posterior markings lacking, rarely lateral three markings entirely lacking, apical band entirely lacking; in female, sutural marking distinctly present, joining basal band, latero-basal marking combining with basal marking, latero-basal, latero-median and latero-posterior markings frequently fused with one another, forming a narrow longitudinal submarginal vitta, apical band entirely lacking.

Structure. Head broader across eyes than basal width of prothorax (male, 1.12: 1; female, 1.01: 1); terminal segment of maxillary palpus broadened apically with straight outer margin; tempora narrowed posteriorly in anterior half and abruptly constricted in posterior half, almost impunctate and shining, with several setae; frons subvertical and transverse, covered with coarse punctures, bearing a fine but distinct median longitudinal furrow extending backwards to vertex; vertex convex above, coarsely punctured; two to five supraorbital setae present, one of them especially long; gula shining, very sparsely clothed with long pubescence. Eyes relatively prominent, moderately faceted, strongly emarginate at middle of internal margins. Antennae relatively long and slender, inserted just behind the level across frontal margins of eyes; apical one segment surpassing elytral apices in male; antennae barely attaining elytral apices in female; first segment distinctly dilated towards apex, weakly shining, sparsely clothed with fine pubescence, second to eleventh segments densely clothed with fine appressed pubescence and sparsely with fine erect pubescence; comparative length of each antennal segment as follow:— $5>3\geqq6>4\geqq1+2$ (male) or $5>3\geqq1+2=6>4$ (female).

Prothorax longer than basal width (male, 1.18: 1; female, 1.09: 1), deeply constricted both behind apex and before base, and angularly prominent laterally just before the middle; breadth across prominent portions distinctly broader than length (male, 1.43: 1; female, 1.51: 1); disk of pronotum convex above, finely and closely punctured, sparsely clothed with fine pubescence; posterior lateral setae long; prosternum shining, extremely thinly clothed with short pubescence; meso- and metasterna



Figs. 1–4. *Pidonia orientalis* Matsushita; 1, holotype, female; 2, labels for the same specimen; 3, male, and 4, female, from the Shimashima Valley in Nagano Prefecture.

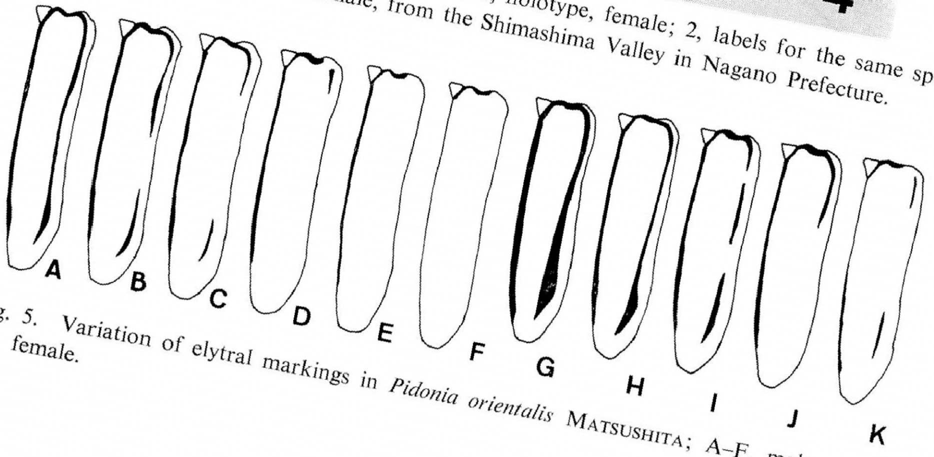


Fig. 5. Variation of elytral markings in *Pidonia orientalis* Matsushita; A–F, male, G–K, female.

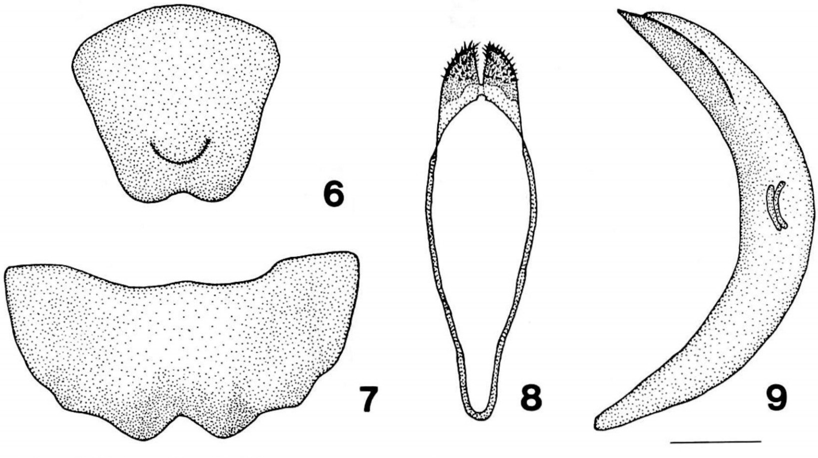
finely punctate, densely clothed with fine appressed pubescence. Scutellum small and triangular, slightly longer than broad, bearing thin pubescence on the surface. Elytra 2.75 times (male) or 2.59 times (female) as long as basal width, gradually narrowed posteriorly (male) or almost parallel-sided (female), and separately subtruncate at apices; surface closely and deeply punctate and densely clothed with subappressed pubescence; interspace between punctures broader than diameter of each puncture.

Legs relatively slender, finely punctate, clothed with short pubescence; femora clavate, with subappressed pubescence; hind femora not reaching elytral apex in both sexes; tibiae linear, with suberect pubescence, tarsi densely clothed with short pubescence on under surface; first segment of metatarsus longer than the following two taken together; third segment strongly dilated apically and deeply emarginate at middle of apex.

Abdomen elongate and gradually narrowed towards apex; surface of each sternite densely covered with extremely fine pubescence; in male, apex of last sternite triangularly emarginate at middle (Fig. 7), apex of last tergite deeply emarginate at middle (Fig. 6); in female, apex of last sternite round, apex of last tergite round.

Male genital organ moderately sclerotized; median lobe relatively thick, curved ventrally (Fig. 9) and acutely pointed at apex; lateral lobes shorter than median lobe, each apex produced and sparsely furnished with short terminal hairs (Fig. 8); endophallus with a short diverticulum at base, long and furnished with a pair of falcate sclerites.

Specimens examined. ♀ (Holotype), Kamikôchi, Nagano Pref., 2–VIII–1931, K. Ohbayashi leg.; 6 ♂♂, 8 ♀♀, Nakabusa Spa (1,500 m alt.), Nagano Pref., 29–VII–1986, S. Takechi & M. Kuboki leg.; 1 ♀, Shimashima Val., Nagano Pref., 2–VIII–1976, S. Takechi leg.; 5 ♂♂, 4 ♀♀, Iwanadome (1,250 m alt.), Shimashima Val., 21–VII–1986, M. Kuboki leg.; 10 ♂♂, 2 ♀♀, Yaridaira (2,000–2,200 m alt.),



Figs. 6–9. *Pidonia orientalis* Matsushita, ♂; 6, last tergite; 7, last sternite; 8, lateral lobes of male genitalia, ventral view; 9, median lobe of the same, lateral view. Scale: 0.3 mm.

Gifu Pref., 29–VII–1985, S. Takechi leg.; 15 ♂♂, 7 ♀♀, Mt. Norikura (1,800–2,500 m alt.), Nagano Pref., 28–VII–1985, S. Takechi leg.; 3 ♂♂, Tanohara (2,190 m), Mt. Ontake, Nagano Pref., 5–VIII–1985, S. Takechi leg.; 3 ♂♂, 2 ♀♀, Mt. Misaka, near Mt. Ontake, 31–VII–1988, S. Takechi leg.; 12 ♂♂, Kurokawa Val., Mt. Komagatake, Nagano Pref., 3–VIII–1986, H. Nakabayashi leg.; 10 ♂♂, 12 ♀♀, Higurashinotaki (1,800–1,900 m alt.), Mt. Komagatake, 1–VIII–1988, S. Takechi leg.; 13 ♂♂, 1 ♀, Mt. Enasan (1,400–1,600 m alt.), 22–VII–1989, S. Takechi leg.; 2 ♀♀, Kitazawa Pass (2,100 m alt.), Yamanashi Pref., 2∼3–VIII–1983, S. Takechi leg.; 18 ♂♂, 16 ♀♀, Kitazawa Pass, 1–VIII–1986, M. Kuboki leg.; 12 ♂♂, 5 ♀♀, Yabusawa (2,250 m alt.), Nagano Pref., 28∼29–VII–1987, S. Takechi leg.; 1 ♂, 1 ♀, Yabusawa, near Umanose, Nagano Pref., 28∼29–VII–1987, S. Takechi leg.; 2 ♂♂, 1 ♀, Ryomata, Yamanashi Pref., 29–VII–1984, S. Takechi leg.; 34 ♂♂, 13 ♀♀, Daisenjosawa (1,900 m alt.), Yamanashi Pref., 1–VIII–1986, S. Takechi leg.; 1 ♀, Suzuran Pass (1,700 m alt.), near Mt. Tadeshina, Nagano Pref., 12–VII–1986, M. Kuboki leg.; 1 ♀, Shirakoma-rindô, Mt. Yatsugatake, 19–VII–1986, H. Nakabayashi leg.; 1 ♀, Shirakomaike (2,050 m alt.), Nagano Pref., em. 15–VII–1989, bred by M. Kuboki; 4 ♂♂, 5 ♀♀, Shibunoyu (1,850 m alt.), Nagano Pref., 18–VII–1987, S. Takechi and M. Kuboki leg.; 5 ♂♂, 1 ♀, Daibosatsu Pass (1,800–1,890 m alt.), Yamanashi Pref., 19–VII–1986, S. Takechi leg.; 6 ♂♂, Mt. Kumotori (1,830 m alt.), Saitama Pref., 5∼6–VIII–1983, S. Takechi leg.; 1 ♂, 3 ♀♀, Hatchôdaira (2,100 m alt.), Yamanashi Pref., 21–VII–

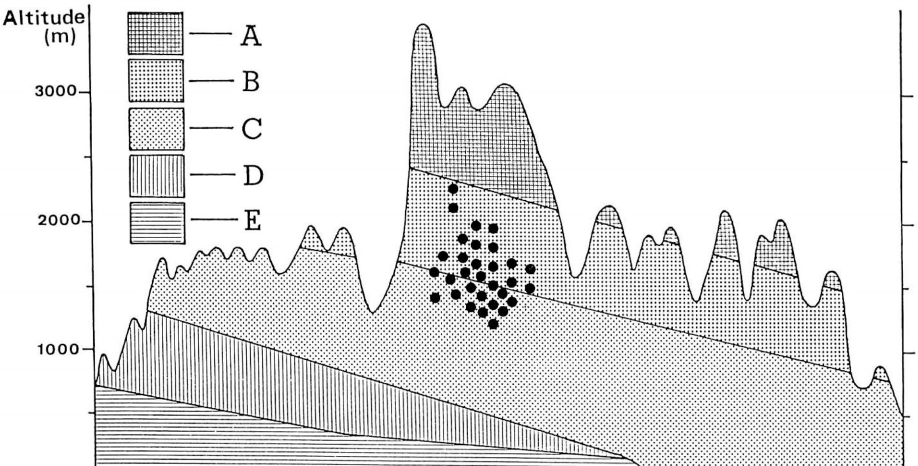


Fig. 10. Vertical distribution of *Pidonia orientalis* Matsushita in connection with vertical vegetational zones of Honshu, Shikoku and Kyushu. —— A, Climax of alpine desert, grassland and scrub (including *Pinus pumila* formation); B, climax of conifer forest (*Abies–Picea* formation); C, climax of deciduous broadleaved forest (*Fagus crenata* formation); D, climax of intermediate conifer forest (*Tsuga sieboldi* formation); E, climax of evergreen broadleaved forest (*Castanopsis cuspidata* formation).

1984, S. TAKECHI leg.; 3 ♀♀, Hatchôdaira (2,100 m alt.), em. 6–VI–1987, bred by S. TAKECHI.

Distribution. Japan (central Honshu).

The vertical distribution of this species is shown in Fig. 10 in connection with the vertical vegetational zones of Japan excluding Hokkaido. Its distributional range is vertically limited mainly to the upper part of the *Fagus* zone and evergreen conifer zone.

The author examined a number of specimens obtained on Mt. Daibosatsu, Yamanashi Prefecture, and considered that they could be classified into three good species belonging to the *bouvieri* group. These are *P. bouvieri* PIC, *P.* sp. (Japanese name: Tsumaguro-hime-hanakamikiri) and *P. orientalis* MATSUSHITA. According to investigation made on Mt. Daibosatsu, *P.* sp. widely occupies the broadleaved forest (represented by *Quercus* and *Castanea*); *P. orientalis* occurs from the upper part of the broadleaved forest (represented by *Fagus*) to the evergreen conifer forest, and *P. bouvieri* inhabits the conifer forest and is one of the most dominant species in the evergreen conifer zone.

Flight period. July to August.

Flower records. Hydrangea, Filipendula, Angelica, Weigela, Sorbus, Veratrum, Rhododendron.

Host plant. Betula ermani.

Biological notes. According to the investigation made at Hatchôdaira (2,000 m alt.), Nagano Prefecture, the larvae of *P. orientalis* feed on wet barks of dead birch trees in the evergreen conifer forest. In the autumn most mature larvae mainly pupate in the bark buried under the soil. When the bark is thin or when it has been removed prior to hibernation, the hibernacum are formed in the soil around the roots. In the spring most larvae, which pupate in the soil, form circular cells. The adults which emerged in cells creep out to the surface of the earth.

In the spring immature small-sized larvae were found in the barks. This suggests that the larvae of *P. orientalis* must hibernate at least twice in the evergreen conifer forest till they reach the adult stage.

Remarks. This species is closely allied to *Pidonia bouvieri* PIC, but can be distinguished from the latter by the following key:

1. Antennae entirely fulvous, sometimes third and following segments faintly infuscated at their apices; longitudinal submarginal vitta of elytra prolonging at their apices; apex of last tergite of female round.......... *P. orientalis* MATSUSHITA.

— Antennae fulvous, third and following segments infuscated at their apices; longitudinal submarginal vitta of elytra obliquely subtruncate at their apices; apex of last tergite of female truncate, sometimes shallowly emarginate at middle.. *P. bouvieri* PIC.

要　　約

窪木幹夫: 東アジア産ヒメハナカミキリ属の知見. II. カクムネヒメハナカミキリの再記載とその垂直分布と生態に関する知見. —— カクムネヒメハナカミキリは，長野県上高地産の個体に基づいて新種として報告された. しかし，本種の分類学的取扱いは，それ以後の研究者によりさまざまで，独立種とした例もあるが，多くは *P. bouvieri* Pic や *P. maculithorax* Pic の同物異名とされてきた. 筆者は，中部山岳地域の亜高山帯での *bouvieri* 種群の幼，成虫調査で，カクムネヒメハナカミキリが近縁種とは生息環境，訪花活動性，分布域が異なることに気づいた. 本論文では，基準標本に加え，中部山岳地域で採集した個体を調べ，カクムネヒメハナカミキリの再記載を行い，雄交尾器，末端節腹板，背板，そして，雄雌の上翅斑紋の変異を図示した.

本種の幼虫はダケカンバの立ち枯れの樹皮中で生活する. 秋，老熟幼虫は，おもに土に埋もれた樹皮中や根元付近の土中で越冬する. 春には，土中に円形の蛹室をつくり，その中で蛹化する. 蛹室内で羽化した成虫は，7月ごろ地表に這い出す. 春の調査では，老熟幼虫のほかに小型の幼虫が樹皮内に見つかった. このことは，亜高山帯で生活するカクムネヒメハナカミキリの幼虫が，成虫になるのに，少なくとも二度越冬する必要があることを暗示している. なお，和名カクムネヒメハナカミキリは原記載時に指定されたもので，本種の形態的特徴をよく表している. これにともない，*P. bouvieri* Pic にはブービエヒメハナカミキリという和名をつけることを提唱する.

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Elytra, Tokyo, **18** (1): 136, May 15, 1990

New Records of *Pidonia takechii* (Coleoptera, Cerambycidae) from the Chûbu District, Central Japan

Mikio KUBOKI

47–15, Ohara 1-chome, Setagaya-ku, Tokyo, 156 Japan

Pidonia takechii KUBOKI is one of the most dominant species in the evergreen conifer zone of the Asama, Mikuni and Nikko mountain areas, central Honshu, Japan. Recently, I had an opportunity to examine a number of specimens collected in the northwestern parts of the Chûbu District, Honshu, Japan.

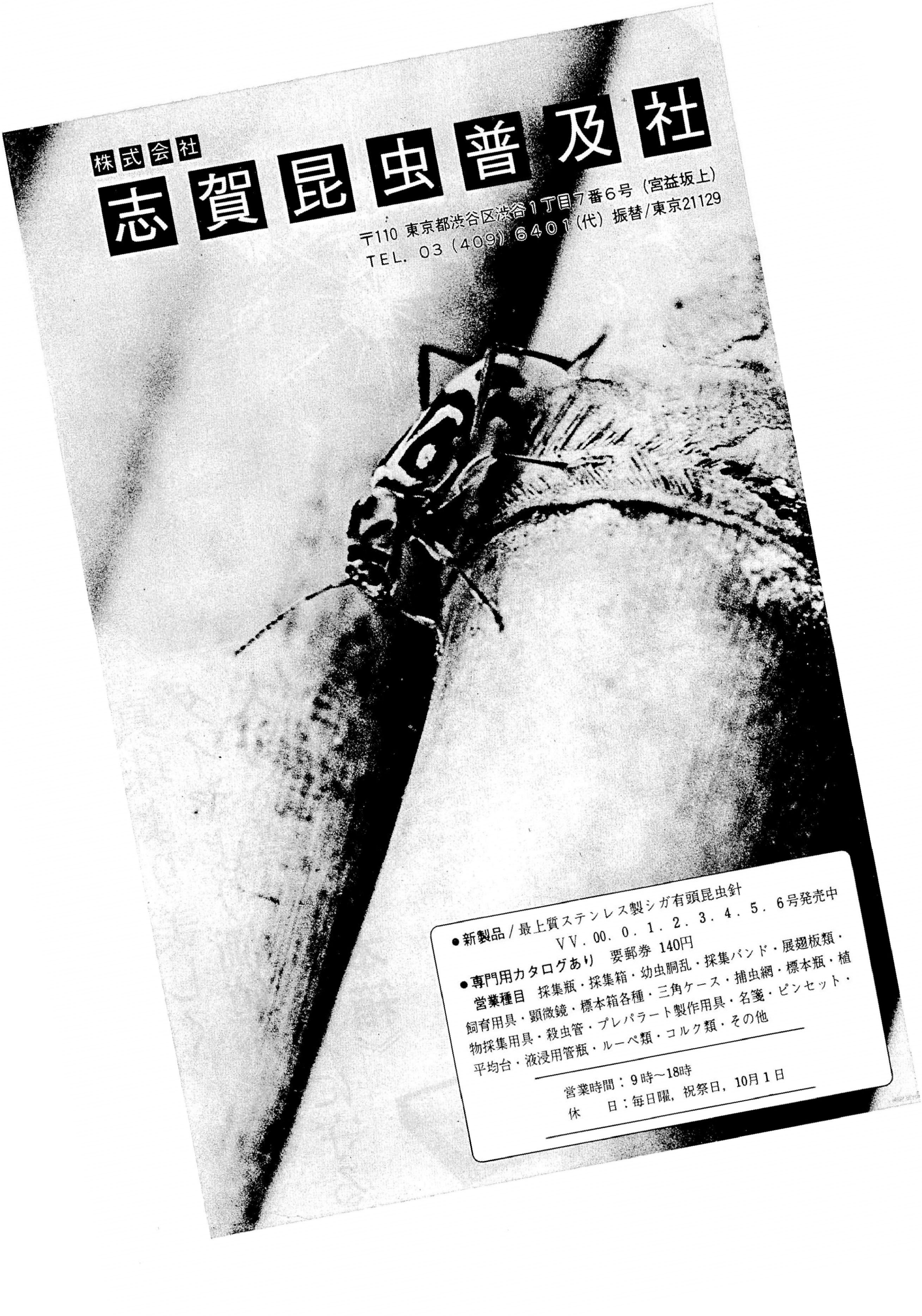
Pidonia (*Pidonia*) *takechii* KUBOKI

Pidonia (*Pidonia*) *takechii* KUBOKI, 1986, Ent. Pap. pres. Kurosawa, Tokyo, 297.

Head, thorax and abdomen fulvous; first to second sternites faintly dark brown to black in male; antennae almost fulvous; elytra yellowish fulvous with black markings, which are sometimes almost lacking; femora fulvous with black markings in apical halves.

Specimens examined. 6 ♂♂, 3 ♀♀, Mt. Iizuna, Nagano Pref., 16–VII–1985, H. NAKABAYASHI leg.; 9 ♂♂, 2 ♀♀, Mt. Kurohime, Nagano Pref., 10–VIII–1986, H. NAKABAYASHI leg.; 15 ♂♂, 10 ♀♀, Ôborasawa, Mt. Togakushi, Nagano Pref., 7–VII–1985, H. NAKABAYASHI leg.; 6 ♂♂, 3 ♀♀, Mt. Myôkô, Niigata Pref., 14–VIII–1983, H. NAKABAYASHI leg.; 1 ♂, 1 ♀, Soudaki (1,200 m alt.), Tusbame Spa, Niigata Pref., 21–VII–1981, J. TSUKADA leg.; 2 ♂♂, Sasagamine, Myôkôkôgen, Niigata Pref., 23–VII–1977, J. TSUKADA leg.; 18 ♂♂, 12 ♀♀, Wasabisawa ∼ Tsugadaira (1,100–1,500 m alt.), Niigata Pref., 27–VII–1986, M. KUBOKI leg.; 4 ♂♂, 2 ♀♀, Sasame Ridge (1,750–1,950 m), near Renge Spa, Niigata Pref., 27–VII–1986, M. KUBOKI leg.; 4 ♂♂, Yari Spa (1,700–1,850 m alt.), Mt. Shiroumadake, Nagano Pref., 5–VIII–1976, M. KUBOKI leg.; 32 ♂♂, 18 ♀♀, Ôgisawa (1,400–1,550 m alt.), Nagano Pref., 26–VII–1986, M. KUBOKI leg.; 5 ♂♂, 2 ♀♀, Nakabusa Spa (1,500 m alt.), Nagano Pref., 28–VII–1986, M. KUBOKI leg.; 16 ♂♂, 4 ♀♀, Yaridaira (2,000–2,200 m alt.), Gifu Pref., 29 ∼ 30–VII–1985, S. TAKECHI leg.; 2 ♂♂, Mt. Norikuradake, Gifu Pref., 28–VII–1985, S. TAKECHI leg.; 2 ♂♂, Reisengoya (2,300 m alt.), Mt. Norikuradake, Nagano Pref., 28–VII–1985, S. TAKECHI leg.; 2 ♀♀, Kurobe lakeside (1,500 m alt.), Toyama Pref., 26–VII–1986, M. KUBOKI leg.; 2 ♂♂, 1 ♀, Midagahara, Tateyama-machi, Toyama Pref., 30–VII–1983, M. KAWAHARA leg.; 4 ♂♂, 2 ♀♀, Arimine, Toyama Pref., 20–VI–1982, S. KITAMURA leg.; 2 ♂♂, Ôshirakawa (1,600–2,200 m alt.), Mt. Hakusan, Gifu Pref., 2 ∼ 3–VIII–1976, M. KUBOKI leg.; 1 ♀, Iwama Spa, Ishikawa Pref., 20–VII–1961, TOMISAWA leg.; 1 ♂, Mt. Akausagi, Katsuyama City, Fukui Pref., 4–VII–1982, H. SASAJI leg.; 1 ♂, 1 ♀, Mt. Kyôgatake, Ôno City, Fukui Pref., 21–VII–1980, H. SASAJI leg.

Finally, I with to express my deep gratitude to Messrs. M. KAWAHARA, S. KITAMURA, H. NAKABAYASHI, Dr. H. SASAJI, S. TAKECHI and J. TSUKADA, who gave me opportunity to study on the interesting material.



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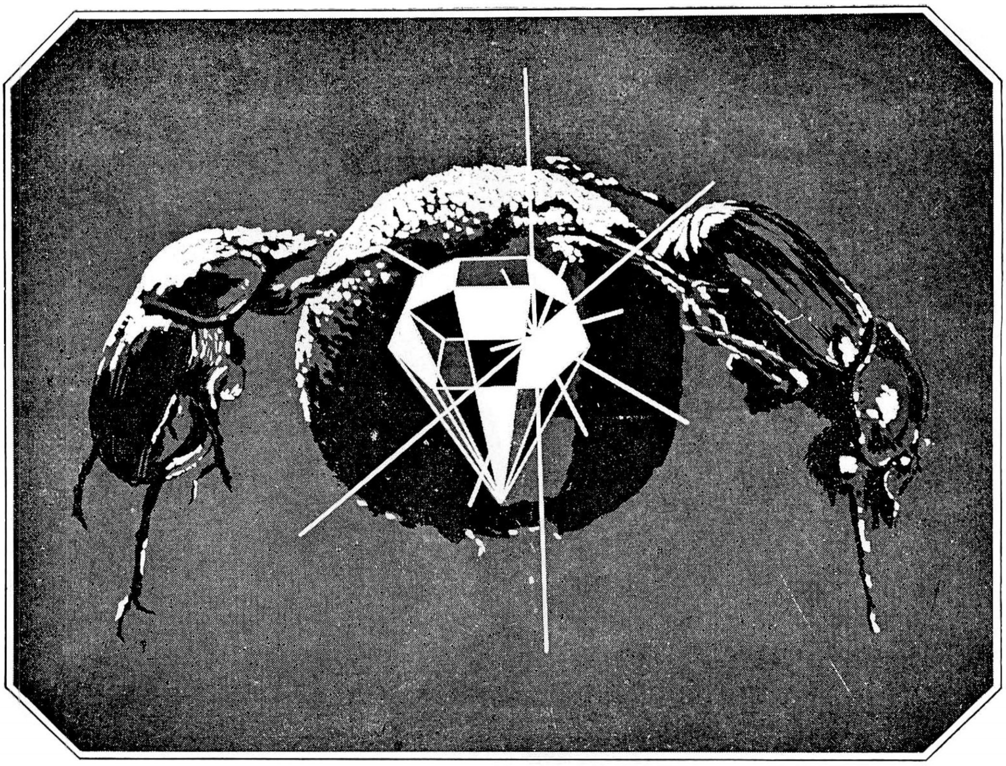

真珠より美しく
ダイヤより価値がある
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自然はますます大切なものとなってきました。この不思議な世界を解明する貴重な手掛りとなる昆虫標本は、価値あるものとして永久に保存したいものです。

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●高級ニス塗装の丈夫で美しい仕上げ

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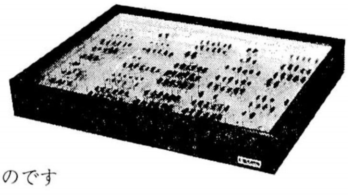

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